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A Taxonomic Revision of the Termitophilous Tribe Termitohospitini. Part III. The Subtribe Termitusina With Notes on their Behavior and the Ultrastructure of Certain Setae (Coleoptera: Staphylinidae)

By

David H. Kistner

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A Taxonomic Revision of the Termitophilous Tribe Termitohospitini. Part III. The Subtribe Termitusina With Notes on their Behavior and the Ultrastructure of Certain Setae (Coleoptera: Staphylinidae)[1]

by

David H. Kistner[2]

ABSTRACT

The entire subtribe Termitusina has been revised. One new genus, *Thoracotusa* (type species, *T. alzadae*) is described while the other 2 genera, *Termitusa* and *Termitosodes* are redescribed. Keys are provided to distinquish all the subtribes of the Termitohospitini. A key to the genera of Termitusina is provided. The following new species are described: *Termitusa atlanticus* (Rhodesia), *T. bandai* (Malawi), *T. boultoni* (Rhodesia), *T. cloveri* (Zambia), *T. coatoni* (Zambia), *T. delignei* (Gabon), *T. dybasi* (Cameroun), *T. hexasetosa* (Zaire), *T. katangensis* (Zaire), *T. leleupi* (Zaire), *T. lightningae* (Guinea), *T. malawiensis* (Malawi), *T. minor* (Zaire), *T. mixaseta* (Zaire), *T. muneris* (Zambia), *T. pasteelsi* (Gabon), *T. regina* (Zaire), *T. ruellei* (South Africa), *T. sheasbyi* (South Africa), *T. superhirsutus* (Zambia), *T. ugandae* (Uganda), *T. viegasi* (Angola), *T. wasmanni* (Rhodesia), *T. williamsi* (Zambia), *Thoracotusa alzadae* (Zambia), *T. carrissoensis* (Angola), *T. kymrae* (Zaire), *Termitusodes congolensis* (Zaire), *T. leleupi* (Zaire). Most of the old species were redescribed and illustrated. Keys to all species of all genera are provided.

The behavior of the species and the relationship of the glands to their behavior are reviewed. The interpretation is offered that the Termitusina are adapted to the colony and to the lives of the termites but they are not integrated into the social life of the termites. The ultrastructure of certain setae and microtrichia are presented.

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INTRODUCTION

The subtribe Termitusina was first defined by Seevers (1957: 192) as a subtribe of the tribe Termitohospitini. It shares with the rest of the Termitohospitini the 4-4-5 tarsal formula; the labial palps with the first 2 segments long and slender and the third segment reduced in length; the distinct mentum; the slender ligula, and the large and margined mesocoxal acetabulae. The subtribes are most easily distinquished by the following key.

KEY TO THE SUBTRIBES OF TERMITOHOSPITINI

1. Body form limuloid or nearly limuloid. 2
Body form not limuloid, somewhat physogastric; prognathous; pronotum collar-like in shape. . . . . Termitospectrina (including Termitoecia Bernhauer, revised by Kistner (1970b)).
2. Body form not strongly limuloid; head easily visible from the dorsal surface, not covered by the pronotum; meso- and metasternum with a very large intercoxal ridge separating the mesocoxae. . . . . Hetairotermitina (containing the genus Hetairotermes Cameron, revised by Kistner (1970a)).
Body form strongly limuloid, meso- and metasternum without intercoxal ridges. 3
3. Pronotum covers entire head; mesosternum length equal to that of the metasternum; antennae with sides of segments expanded to cover the petioles. . . . . Termitohospitina (only known from the New World)
Pronotum not covering entire head; metasternum much longer than the mesosternum; antennae with distinct petioles not covered by extensions of the sides of the segments. .Termitusina (only known from Africa)

METHODS

It is nearly useless to look at dried specimens of this subtribe. We keep all specimens in 80% alcohol after they have been fixed in FAA. These can be sorted to species in fluid. Then to determine the species, 2 males and 2 females from each series of each species are placed intact into cold KOH. There are no obvious secondary sex characters. Males tend to have a slightly thicker abdomen than females. Sometimes in the callow species, they can be sexed by shining strong light through the abdomen. These are made into slides separating out meso- and metasternum, pronotum, elytra, male genitalia or spermathecae, and abdominal segments II-IX. The species can be determined from these. All other methods have been given by Kistner (1968). All measurements are in mm unless otherwise stated.

For simplicity, certain conventions were adopted. When counting the setae on the pronotum, I have started from the midline and designated the number of setae in each row out to the outer edge. On the elytra the numbers are given in the rows from the suture to the outside edge. For convenience, the rows have been marked on the photos of the pronota and elytra. When slides are made, broken setae can be identified by the empty sockets.

For the readers' convenience, these setae have been redrawn into their locations on half of the pronotum and on the elytra.

Most of this paper was written prior to a field trip to Africa in 1972-73 and all of the figures had been constructed into plates. However, the paper could not be completed. During the field trip, 5 new species were collected as well as numerous additional specimens of species described herein. It then became necessary to rewrite about 50% of this paper. However, the plates could not be conveniently changed. Thus the figures of new species and new sexes, etc. are all collected together on separate plates in what appears to be an incomprehensible sequence without this explanation.

ACKNOWLEDGMENTS

For help in the field, I am extremely grateful to Mr. Rudyerd Boulton, Director of the Atlantica Ecological Research Station, Salisbury, Rhodesia; Dr. W. G. H. Coaton, Plant Protection Research Institute, Pretoria, South Africa; and Mr. Karl Kühne, Director, International Red Locust Control Service, Mbala, Zambia. Without their enthusiastic help, my recent field efforts could not have been so productive.

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For host identifications, I am deeply grateful to Mr. R. M. C. Williams and Mr. W. A. Sands of the Termite Research Unit, British Museum (Natural History), London and to Dr. Kumar Krishna, City University of New York. Their identifications are individually credited to them in the text.

This paper could not have been completed so quickly were it not for the efforts of the following Shinner Assistants of California State University, Chico: Daniela Davison, Jan Fischer, Carolyn Gooch, Herbert Jacobson, Nancy Piastuch, John Shower, and Riley Swift.

KEY TO GENERA OF THE SUBTRIBE TERMITUSINA

1. Mesocoxal acetabulae proceed only about half way to the posterior

edge of the metasternum, (Fig. 136). . . . . Thoracotusa (p. 39)
Mesocoxal acetabulae proceed all the way to the posterior edge of the metasternum (Fig. 8). 2

2. Maxillary palp with the apical segment terminal in position (Fig. 7); labrum short, (Fig. 6). . . . . Termitusa (p. 4)
Maxillary palp with the apical segment attached to the side of segment 3, (Fig. 146); labrum long, (Fig. 153). . . . . Termitusodes (p. 45)

Genus Termitusa Wasmann

Termitusa Wasmann 1905: 199; 1911: 162; Fenyes 1918: 106.
Glaphyrinus Bernhauer 1941: 375; Seevers 1957: 209 (synonymized the genus).
Termitusa, Seevers 1957: 209; Pasteels 1967: 62.

Distinguished from all other genera including Termitusodes to which it is most closely related by the relatively short labrum and the more rapidly tapering abdomen. Distinguished from Thoracotusa by the position of the mesocoxal acetabulae margins which go to a point just anterior to the posterior border of the metanotum.

Overall shape ovoid, as in Fig. 1. Head broadly oval in shape. Dorsal surface of the head without further sculpture. Head without a neck and without a nuchal ridge. Eyes present, reniform, with many facets directed both anteriorly and laterally. Gula relatively short with sides straight. Submentum fused to the gula; mentum distinct from the submentum. Antennae inserted between the eyes and the insertion of the anterior arms of the tentorium; 11-segmented, shaped as in Fig. 2. Labrum relatively short, shaped as in Fig. 6. Mandibles slightly asymmetrical, shaped as in Fig. 3 and 4. Maxillae shaped as in Fig. 7, palpi 4-segmented; apical segment attached to most distal part or parts on preceeding segment. Labium shaped as in Fig. 5, palpi 2-segmented with the 1st segment about twice as long as the 2nd. There is a very small setae-like structure at the tip of the terminal segment of the labial palp, which may represent a very regressed third segment. Ligula distinct. Maxillary acetabulae not distinctly margined.

Pronotum wider than long, shaped as in Fig. 1, although the shape is somewhat variable by species. Dorsal surface of the pronotum with various setae counts which are variable by species. Dorsal surface of the pronotum reflexed ventrally to a variable extent depending upon the species. Prosternum (Fig. 9) evenly rounded between the legs and with relatively short anterolateral articulation processes. Prothoracic coxal cavities closed behind by membrane in which are located the entirely membranous mesothoracic peritremes. Elytra shaped as in Fig. 47-71, with the ventral reflection of elytra at approximately a 90° angle to the dorsal surface but does not reflect underneath the body as in Thoracotusa. Meso- and metanotum shaped as in Fig. 10. Wings present, of normal size, with the usual staphylinid venation. Meso- and metasternum shaped as in Fig. 8. Mesocoxal acetabulae distinctly margined, note how the posterior margin of these acetabulae extends to very near the posterior border of the metasternum. Pro-, meso-, and metalegs shaped as in Fig. 15, 16, and 17, respectively; tarsal formula, 4-4-5.

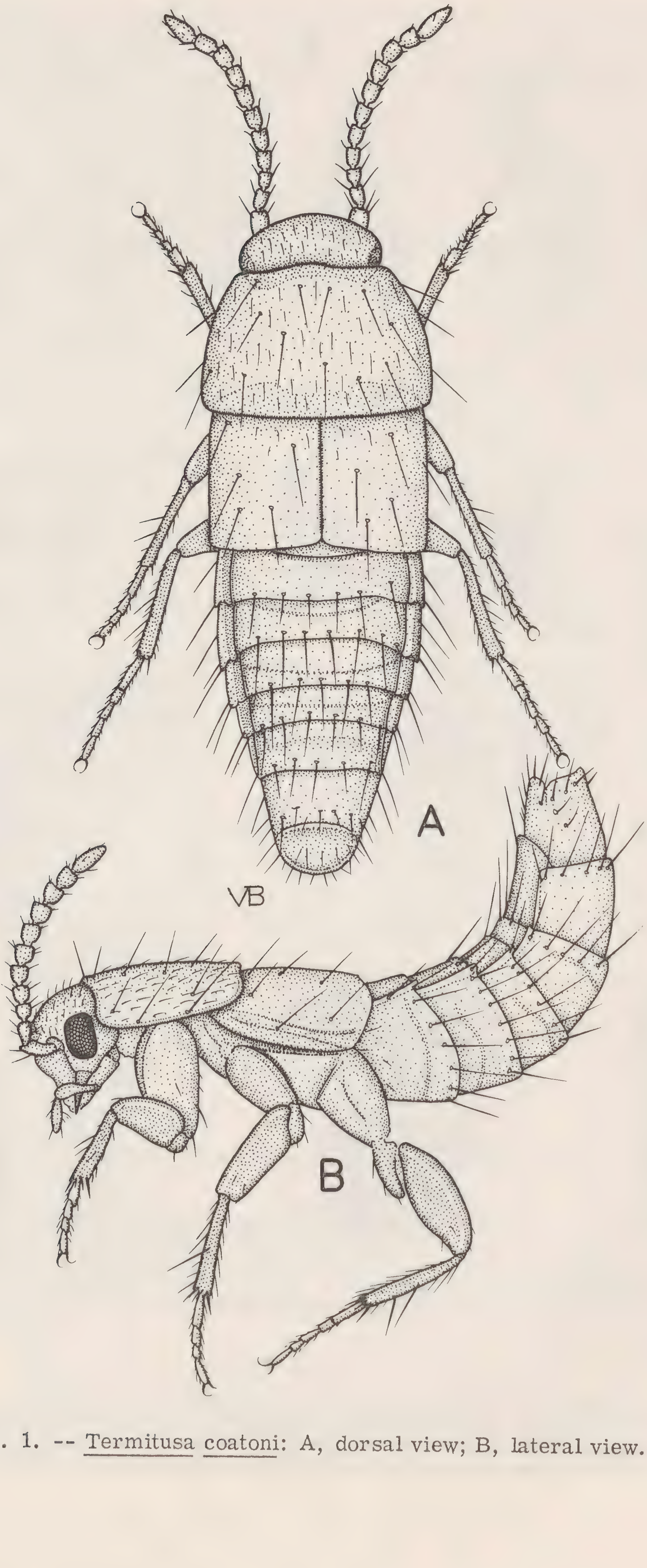


Fig. 1. -- Termitusa coatoni: A, dorsal view; B, lateral view.

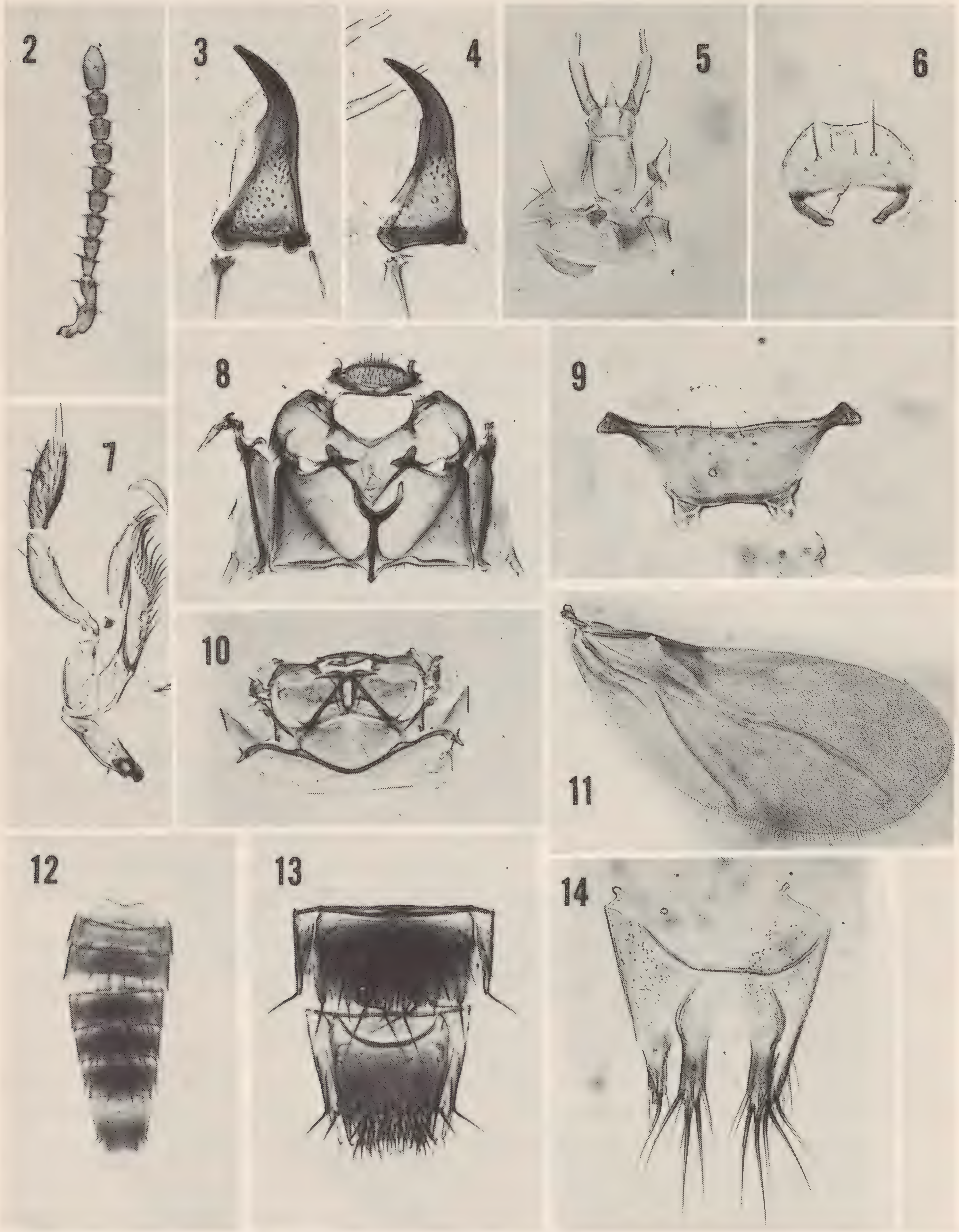


Fig. 2-14. -- *Termitusa* generic characters: *T. atlanticus*: 2, antennae; 5, labium; 9, prosternum; 11, wing; 12, abdominal segments II-VIII; 14, abdominal segment IX. *T. muneris*; 3, left manidble; 4, right mandible; 6, labrum; 7, maxillae; 8, meso- and metasternum; 10, meso- and metanotum; 13, abdominal segments VII and VIII.

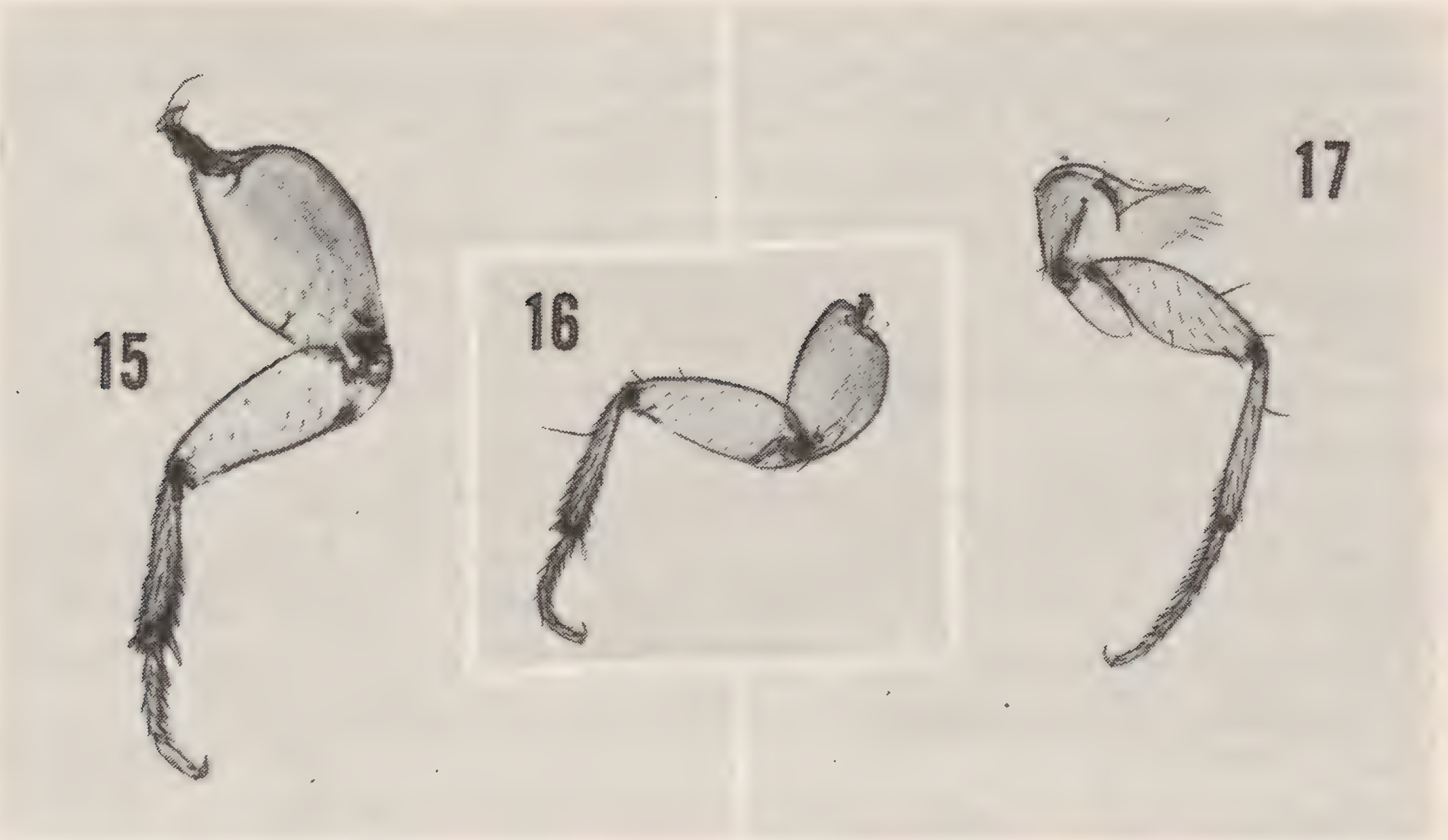


Fig. 15-17. -- *Termitusa* generic characters: *T. muneris*: 15, proleg. *T. atlanticus*: 16, mesoleg; 17, metaleg.

Abdomen subconical in shape as in Fig. 12. Abdominal segment I represented by tergite which is fused to the metanotum (Fig. 10). Segment II represented by tergite alone. Segments III-VI with 1 tergite, 1 sternite, and 2 pairs of paratergites each. Inner and outer paratergites of approximately equal length. The dorsal rim of the abdomen occurs between the outer paratergites and the sternites. Segment VII with 1 tergite, 1 sternite, and 1 pair of full length paratergites, the outers, while the inner paratergites are reduced to subtriangular sclerites at the anterior end of the outer paratergites. Segment VIII represented by the tergite and sternite alone. Segment IX highly modified into a 4-valved structure, shaped as in Fig. 14. The apodemes of the male segment IX are greatly elongated and in the male there is an additional small sclerite ventrally which probably represents the sternite of the segment. These are absent in the female. Male genitalia sclerotized, variable in shape by species. Spermatheca sclerotized, shape variable by species.

Type species. - of *Termitusa*: *T. sjoestedti* Wasmann. Blackwelder 1952: 380.

- of *Glaphyrinus*: *G. mundus* Bernhauer. Blackwelder 1952: 170 (misspelled, *Glaphyrius*).

KEY TO SPECIES OF TERMITUSA

1. Tergite III with 4 black macrosetae.......................... 5
Tergite III with 6 black macrosetae.......................... 2
Tergite III with 2 black macrosetae........ *T. lightningae* (p. 23)
2. (1) Elytra with 4 rows of macrosetae; with 2 or 3 macrosetae on lateral edge.. 4
Elytra with 5 rows of macrosetae; with 3 macrosetae on lateral edge.. 3
3. (2) Elytra with 1 seta along inner margin........ *T. bandai* (p. 10)
Elytra with 3 setae along inner margin.......... *T. lujae* (p. 23)

4. (2) Elytra with 2 setae on lateral edge. . . . . *T. malawiensis* (p. 25)
Elytra with 3 setae on lateral edge. . . . . *T. boultoni* (p. 11)
5. (1) Tergite IV with 4 black macrosetae. 10
Tergite IV with 6 black macrosetae. 6
6. (5) Pronotum with 4 rows of macrosetae, middle row with 4 setae. 8
Pronotum with 5 rows of setae 7
7. (6) Pronotum with 5 rows of macrosetae, middle row with 4 setae. . . . . *T. hexasetosa* (p. 18)
Pronotum with 5 rows of macrosetae, middle row with 5 setae. . . . . *T. katangensis* (p. 22)
8. (4) Elytra with 4 rows of macrosetae. . . . . *T. wasmanni* (p. 37)
Elytra with 5 rows of macrosetae. 9
9. (8) Pronotum with many short yellow setae between the major setae. *T. coatoni* (p. 16)
Pronotum with no short yellow setae between the major setae. . . . . *T. quadricollis* (p. 29)
10. (5) Tergite V with 4 black macrosetae 11
Tergite V with 6 black macrosetae . . . . . . *T. mixaseta* (p. 26)
11. (10) Microsetae so long and so numerous as to be indistinguishable from the macrosetae. . . . . . *T. superhirsutus* (p. 35)
Microsetae and macrosetae easily distinguishable. 12
12. (11) Pronotum with 5 rows of macrosetae from the midline to the lateral edge. 13
Pronotum with 4 rows of macrosetae from the midline to the lateral edge. 20
13. (12) Elytra with 4 rows of macrosetae. 14
Elytra with 5 rows of macrosetae. 17
14. (13) Elytra with 2 macrosetae on the lateral edge. 15
Elytra with 3 macrosetae on the lateral edge. . *T. williamsi* (p. 39)
15. (14) Tergite VIII with 2 macrosetae. 16
Tergite VIII with 4 macrosetae; median lobe of male genitalia shaped as in Fig. 73; spermatheca unknown. . . *T. cameroni* (p. 13)
16. (15) Second row of elytra with 2 macrosetae; spermatheca shaped as in Fig. I H, medium lobe of male genitalia shaped as in Fig. I G. . . . . *T. viegasi* n. sp. (p. 36)
Second row of elytra with 3 macrosetae; spermatheca as in Fig. 94, medium lobe of male genitalia as in Fig. 72. . . . . *T. atlanticus* (p. 9)
17. (4) Elytra with 2 macrosetae on lateral edge 18
Elytra with 3 macrosetae on lateral edge 19
18. (17) Abdominal sternite III with 8 macrosetae; median lobe of male genitalia shaped as in Fig. 78; spermatheca shaped as in Fig. 96. . . . . *T. cloveri* (p. 13)
Abdominal sternite III with 12 macrosetae; median lobe of male genitalia unknown; spermatheca shaped as in Fig. 109. . . . . *T. regina* (p. 30)
19. (17) Abdominal sternite VI with 8 macrosetae; median lobe of male genitalia shaped as in Fig. 89, spermatheca shaped as in Fig. 106. . . . . *T. muneris* (p. 27)
Abdominal sternite VI with 6 macrosetae; median lobe of male genitalia shaped as in Fig. 88; spermatheca

shaped as in Fig. 103. . . . . *T. leleupi* (p. 22)
20. (13) Elytra with 5 rows of macrochaetae 21
Elytra with 4 rows of macrochaetae 22
21. (20) Pronotum with middle rows of 5 setae. . . . . . *T. minor* (p. 25)
Pronotum with middle rows of 6 setae. . . . . . *T. dybasi* (p.17)
22. (20) Elytra with 2 setae on each lateral edge 25
Elytra with more than 2 setae on each lateral edge 23
23. (22) Elytra with 4 setae on each lateral edge. 24
Elytra with 3 setae on each lateral edge . . . . *T. ugandae* (p. 36)
24. (23) Abdominal sternite VII with 10 macrosetae; median
lobe of male genitalia shaped as in Fig. 85; spermatheca
shaped as in Fig. 110. . . . . *T. ruellei* (p. 30)
Abdominal sternite VII with 8 macrosetae, median lobe of
male genitalia shaped as in Fig. 91; spermatheca shaped
as in Fig. 111. . . . . *T. sheasbyi* (p. 34)
25. (22) Abdominal sternite III with 12 macrosetae. . . *T. escalarae* (p.18)
Abdominal sternite III with 8 macrosetae. 26
26. (25) Pronotum with no secondary setae between the macrosetae . . 27
Pronotum with at least a few secondary setae between the
macrosetae. 29
27. (26) Abdominal sternite VI with 8 macrosetae; median lobe of
male genitalia shaped as in Fig. 86; spermatheca shaped
as in Fig. 112. . . . . *T. sjoestedti* (p. 34)
Abdominal sternite VI with 6 macrosetae. 28
28. (27) Tergites II and III with 4 macrosetae. . . . . . *T. hystrix* (p. 21)
Tergite II and III with 2 macrosetae . . . . *T. mundus* (p.26)
29. (26) Abdominal sternite III with 8 macrosetae; median lobe of
male genitalia shaped as in Fig. 84; spermatheca shaped
as in Fig. 107. . . . . *T. pasteelsi* (p. 29)
Abdominal sternite III with 10 setae; median lobe of male
genitalia shaped as in Fig. 79; spermatheca shaped as in
Fig. 97. . . . . *T. delignei* (p. 16)

Termitusa atlanticus n. sp.

Figures 2, 5, 9, 11, 12, 14, 16, 17, 18, 47, 72, 94

Most closely related to *T. cameroni* from which it is distinguished by the chaetotaxy of tergite VIII, the shape of the male genitalia, and the shape of the spermatheca.

Color light reddish brown throughout with the elytra and head somewhat darker than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with numerous fine yellow setae interspersed among the macrosetae. Macrochaetotaxy of pronotum as in Fig. 18; setae counts are 5, 3, 1, 3, 3. Macrochaetotaxy of elytra as in Fig. 47; setae counts are 2, 3, 3, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2. Macrosetae on tergites VII and VIII are shorter and thinner than the rest of the tergites. There are numerous light yellow setae on the apical third of abdominal segment VIII which is only slightly indented on its posterior border. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 2-8, 8, 8, 8, 6, 6; the 2 on sternite VII are lateral. Median lobe of male genitalia shaped as in Fig. 72. Spermatheca shaped as in Fig. 94.

Measurements. - Pronotum length, 0.43-0.51; elytra length, 0.35-0.40. Number measured, 10.

Holotype. - Male, No. 14617, Rhodesia, Atlantica Ecological Research Station, nr. Salisbury, 27 Mar. 1970, ex nest T-265, Coll. J. R. Clover, D. H., and A. C. Kistner, No. 1907. In the collection of D. H. Kistner.

Paratypes. - Rhodesia: 84, same data as holotype, (D. K.); 11, Umtali Distr., 62 km ex Umtali - Burma Valley, 16 Oct. 1973, ex nest TM 29021. Coll. J. L. Sheasby, No. T-879, (N.C.I., D.K.); 4, Melsetter Distr., 10 km ex Melsetter - Cashel via Scenic Drive, 10 Oct. 1973, ex nest TM 28731, Coll. J. L. Sheasby, No. T-878, (N.C.I., D.K.); 1, Chipinga Distr., 8 km ex Mt. Selinda - Chipinga, 29 Oct. 1973, ex grey mound of nest TM 29672, Coll. W. G. H. Coaton, No. T-881, (N.C.I.). Malawi: 99, Ntchisi Forest Reserve, 11 Sept. 1973, ex nest T-583, Coll. D. H., A. C., and K. M. C. Kistner, (D.K.).

Notes. - The host termites of nest T-265 were determined to be Cubitermes pallidiceps (Sjoestedt) by R. M. C. Williams while the host termites of all the other colonies were determined to be the same species by comparison with specimens from colony T-265 by Kistner. Specimens of colony T-265 and T-583 are in the collection of the British Museum (Natural History), London and the Kistner collection, while specimens from the rest of the colonies collected by Sheasby and Coaton are in the Natural Isoptera Collection Pretoria and the Kistner collection.

Termitusa bandai n. sp.

Figures II A - E

Most closely related to T. lujae from which it is distinguished by the chaetotaxy of the pronotum, elytra, and the shape of the male genitalia. When females are known of T. lujae there will undoubtedly be differences there also.

Color dark reddish brown throughout with the abdomen somewhat lighter than the rest of the body, legs somewhat lighter than this. Dorsal surface of the head, pronotum, and elytra smooth and shiny beneath the very dense vestiture of lighter setae. Macrochaetotaxy of pronotum as in Fig. II B; counts from the midline are: 4, 3, 1, 3, 3. Macrochaetotaxy of elytra as follows: 1, 3, 3, 4, 3; as in Fig. II A. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 6, 6, 6, 6, 6, many. All of the macrosetae are interspersed with numerous pale yellow setae. Setae on tergite VII are shorter and thinner than those on the rest of the tergites. Setae on tergite VIII are so dense as to obscure differences between macro- and microsetae. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 10, 10, 10, 10, 2-10, 6-10. Median lobe of the male genitalia shaped as in Fig. II E. Lateral lobe of male genitalia shaped as in Fig. II D. Spermatheca shaped as in Fig. II C.

Measurements. - Pronotum length, 0.48-0.50; elytra length, 0.36-

0.38. Number measured, 10.

Holotype. - Male, number 15401, Malawi, Ntchisi Forest Reserve, 12 April 1973, ex nest T-586, Coll. D. H., A. C., and K. M. C. Kistner, No. 3039. In the collection of D. H. Kistner.

Paratypes. - 29, same data as holotype, (D. K.).

Notes. - The host termites were determined to be Cubitermes sp. by Kistner, specimens of which are in the collection of the British Museum (Natural History), London and the Kistner Collection. This species has a slightly larger head than C. pallidiceps but is larger than C. sankurensis (Wasmann). The species is named after the Life President of Malawi, Dr. N. Hastings Banda.

Termitusa boultoni n. sp.

Figures 19, 48, 77, 95

Distinguished from T. wasmanni and T. malawiensis to which it is most closely related, by the chaetotaxy of the pronotum, elytra, and the shape of the male genitalia and spermatheca.

Color dark reddish brown throughout with the legs and antenna somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with numerous fine yellow setae interspersed among the macrochaetae. Macrochaetotaxy of the pronotum as in Fig. 19; setae counts are 4, 3, 3, 3. Macrochaetotaxy of elytra as in Fig. 48; setae counts are 2, 3, 3, 3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 4, 6, 6, 6, 6, 6, 2. There are numerous light yellow setae scattered in among the macrochaetae on the abdomen. Macrochaetae on tergites VII and VIII are thinner and lighter in color than those on the other tergites. Tergite VIII with many yellow setae on the apical half. Dorsal margin of tergite VIII indented. No macrochaetae on paratergites. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12, 12, 12, 12, 10, 6-8. Median lobe of male genitalia shaped as in Fig. 77. Spermatheca shaped as in Fig. 95.

Measurements. - Pronotum length, 0.41-0.45; elytra length, 0.33-0.35. Number measured, 3.

Holotype. - Male, No. 14551, Rhodesia, 1 mi ex Atlantica Ecological Research Station-Saffron Walden, 29 Mar. 1970, ex nest T-267, Coll J. R. Clover, D. H. & A. C. Kistner, No. 1921. In the collection of D. H. Kistner.

Paratypes. - 1 male, 1 female, same data as holotype except from nest T-268 and with collection number 1923 (D. K.).

Notes. - The host termites were determined to be Cubitermes sankurensis Wasmann by R. M. C. Williams. Specimens are in the collection of the British Museum (Natural History), London, and the Kistner collection. The species is named after Mr. Rudyerd Boulton, Director of the Atlantica Ecological Research Station for all his help in locating termites.

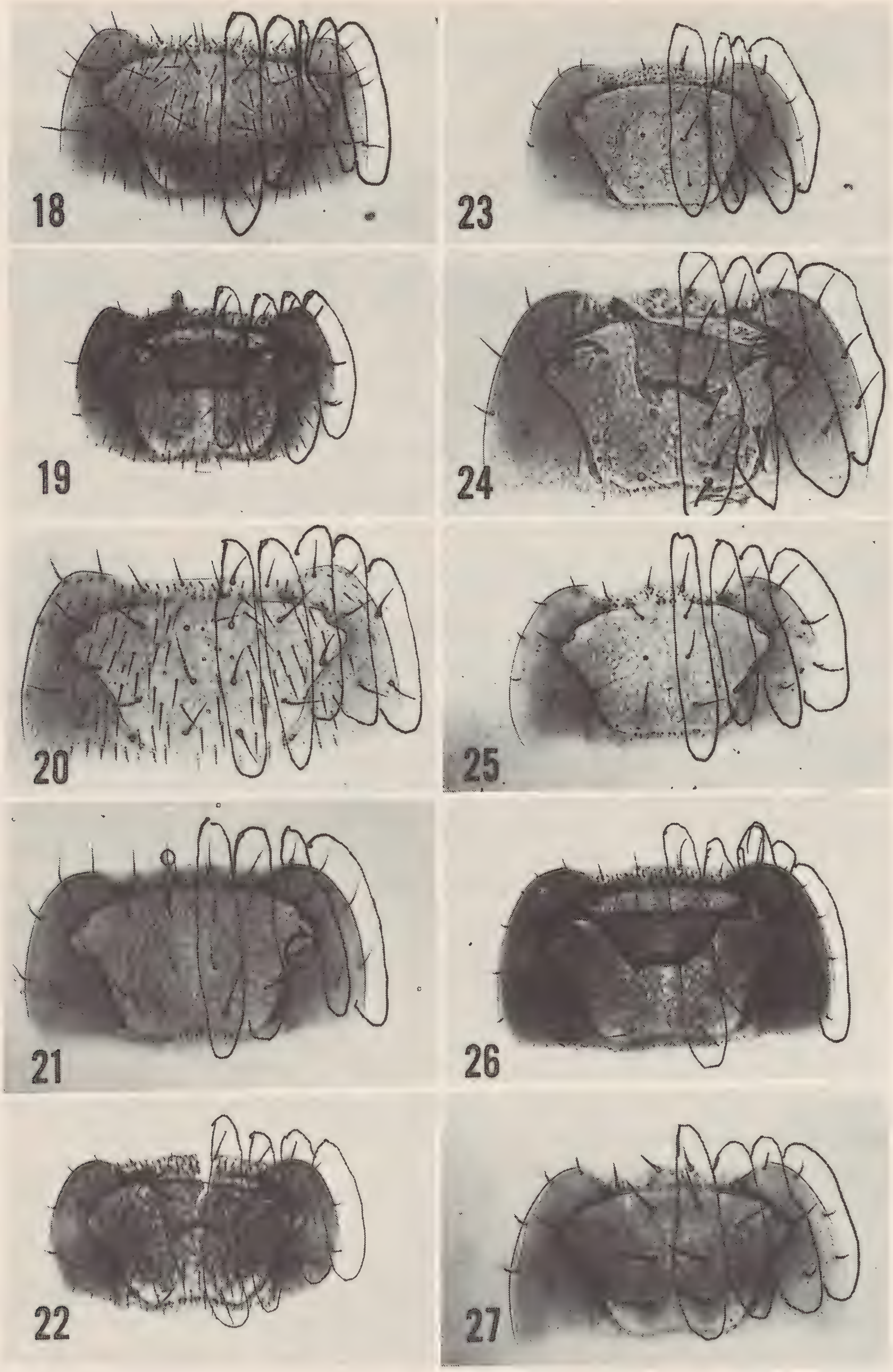


Fig. 18-27. -- Pronota: 18, *Termitusa atlanticus*; 19, *T. boultoni*; 20, *T. cameroni*; 21, *T. cloveri*; 22, *T. coatoni*; 23, *T. delignei*; 24, *T. dybasi*; 25, *T. escalarae*; 26, *T. hexasetosa*; 27, *T. hystrix*.

Termitusa cameroni Reichensperger

Figures 20, 49, 73

Termitusa cameroni Reichensperger 1929: 136 (Tanganyika, Ngerengere, with Cubitermes glebae (Sjoestedt); Seevers 1957: 212 (redescription).

Distinguished from T. atlanticus, to which it is most closely related, by the chaetotaxy of the abdominal tergite VIII and the shape of the male genitalia.

Color light reddish brown throughout with the legs and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with numerous fine yellow setae interspersed among the macrosetae. Macrochaetotaxy of pronotum as in Fig. 20; setae counts are 5,3,2,3,2. Macrochaetotaxy of elytra as in Fig. 49; setae counts are 2,3,3,2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4,4,4,4,4. There are numerous light yellow setae scattered in amongst the macrochaetae of all parts of this species. Macrochaetae on tergites VII and VIII are thinner and lighter in color than those on the other tergites. Tergite VIII with many yellow setae on the apical half, which tend to obscure the larger setae. No macrochaetae on paratergites. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,8,6,6. Median lobe of male genitalia shaped as in Fig. 73. Spermatheca unknown.

Measurements. - Pronotum length, 0.43; elytra length, 0.35. Number measured, 1.

Material examined. - 1 male, Tanzania, Ngerengere, (F. M. N. H.).

Notes. - The host termites were determined to be Cubitermes glebae Sjoestedt. While we excavated numerous C. glebae nests while we were in Tanzania none of our nests yielded specimens of this species.

Termitusa cloveri, n. sp.

Figures 21, 46, 50, 78, 96

Distinguished from T. muneris to which it is most closely related by the chaetotaxy of the elytra and the shape of the male genitalia and female spermatheca.

Color dark reddish brown throughout with the abdomen somewhat lighter than the head, pronotum, and elytra. Dorsal surface of the head, pronotum, elytra, and abdomen smooth and shiny with chaetotaxy as follows. Pronotum with chaetotaxy as shown in Fig. 21; with row counts from the median to the outside as follows: 5,3,1,3,3. Elytra with chaetotaxy as shown in Fig. 50 and row counts as follows: 2,3,2,1,2. There are no short fine setae between the macrochaetae. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,4,4,4,4,4. The macrosetae on tergites VII and VIII are much thinner and shorter than the setae on the other segments. Segment VIII has additionally a large number of yellow setae coming out of the apical third; these tend to blend in with the row of setae across the anterior end of this. Paratergites without macrochaetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,8,8,6. Macrochaetotaxy of abdominal segment IX with 3 on each of the median portions and 2 on each lateral portion. Male

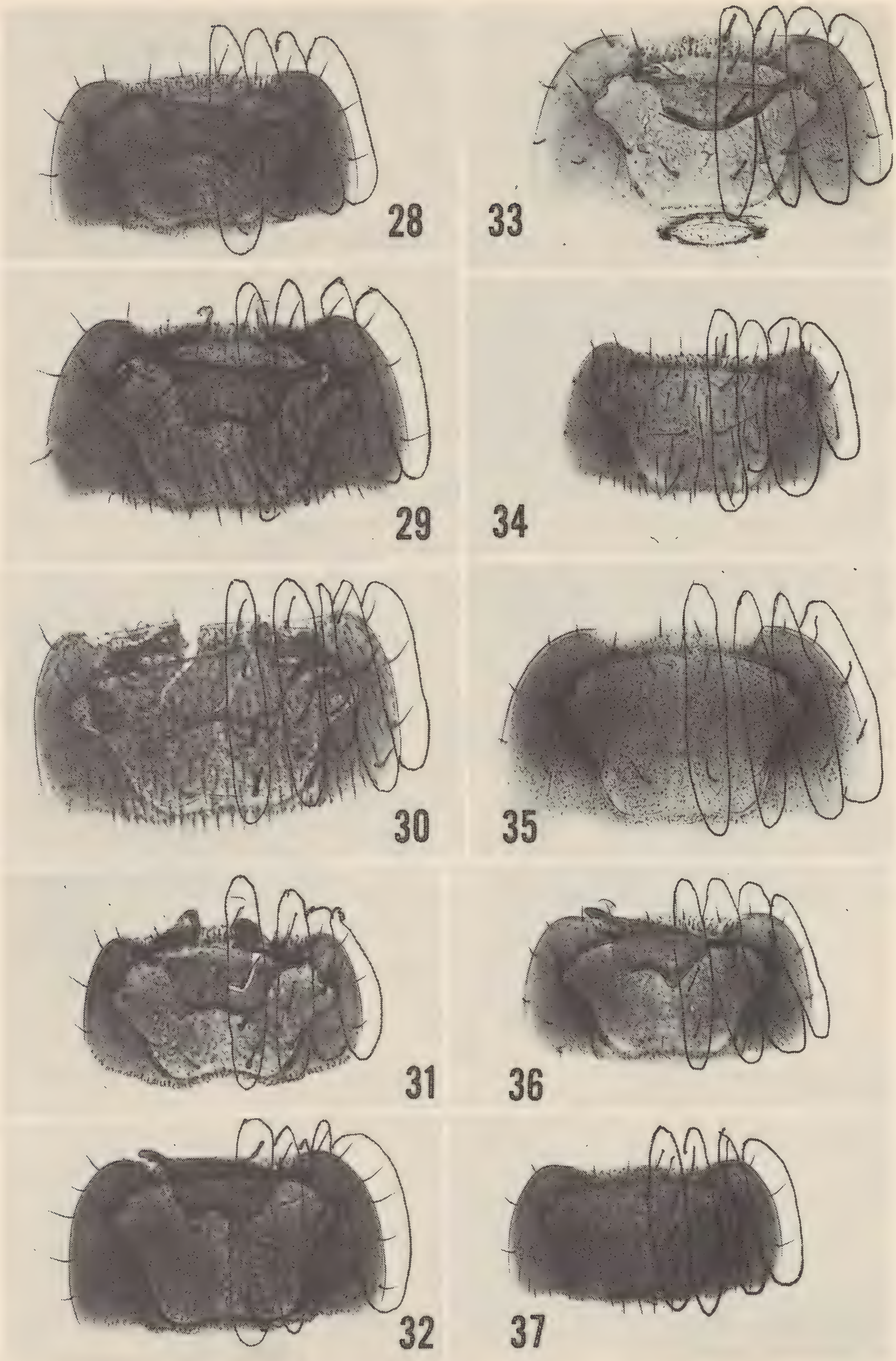


Fig. 28-37. -- Pronota: 28, *T. katangensis*; 29, *T. leleupi*; 30, *T. lujae*; 31, *T. minor*; 32, *T. mixaseta*; 33, *T. mundus*; 34, *T. muneris*; 35, *T. pasteelsi*; 36, *T. quadricollis*; 37, *T. regina*.

genitalia shaped as in Fig. 78. Female spermatheca shaped as in Fig. 96.

Measurements. - Pronotum length, 0.49-0.52; elytra length, 0.38-0.41. Number measured, 10.

Holotype. - Male, no. 14602, Zambia, 10 mi ex Mbala-Mpulungu, 22 May 1970, from the vicinity of the queen of nest T-338, Coll. J. R. Clover, D. H. and A. C. Kistner, no. 2175. In the collection of D. H. Kistner.

Paratypes. - Zambia: 36, same data as holotype, (D. K.); 54, same locality and nest as holotype, from other parts of the nest, Coll. J. R. Clover, D. H. and A. C. Kistner, no. 2174, (D. K.). Zaire: 2, Elisabethville, 3 Jan. 1949, Coll. N. Leleup, no. 8, (M. R. A. C., D. K.); 1,

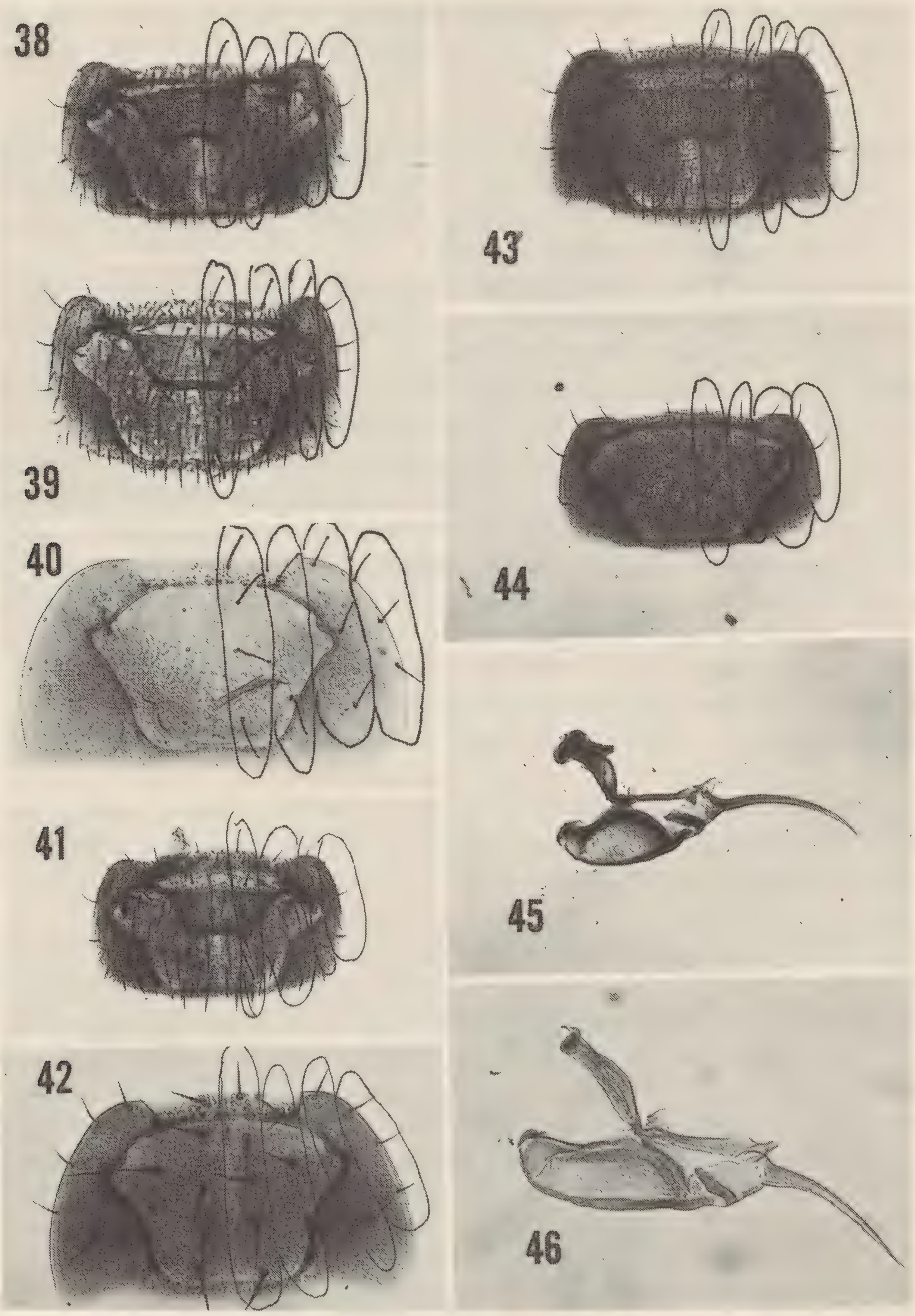


Fig. 38-46. -- Pronota: 38, *T. ruellei*; 39, *T. sheasbyi*; 40, *T. sjoestedti*; 41, *T. superhirsutus*; 42, *T. ugandae*; 43, *T. wasmanni*; 44, *T. williamsi*. Lateral lobes of male genitalia: 45, *T. hexasetosa*; 46, *T. cloveri*.

Katanga, Tshila-Tembo, 20 Feb 1949, Coll. N. Leleup, no. 1, (M. R. A. C.); 2, Kyapamoka, Source de la Mukusu, 11 Feb. 1949, Coll. N. Leleup, (M. R. A. C., D. K.).

Notes. - The host termites were determined to be Cubitermes inclitus (Silvestri) by R. M. C. Williams. Specimens are in the collections of the British Museum (Natural History), London, and Kistner. The species is named after Mr. James Clover, one of the collectors.

Termitusa coatoni n. sp.

Figures 1, 22, 51, 74

Closely related to Termitusa quadricollis from which it is distinguished by the chaetotaxy of abdominal segment VIII and the presence of many secondary setae between the macrosetae of the pronotum.

Color dark reddish brown throughout with legs and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with a covering of fine yellow setae interspersed among the macrochaetae. Macrochaetotaxy of pronotum as in Fig. 22; setae counts are 4, 3, 3, 3. Macrochaetotaxy of elytra as in Fig. 51; setae counts are 2, 3, 3, 1, 3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 6, 6, 6, 6, 2. There are numerous fine yellow setae interspersed among the macrosetae of the abdomen. Macrosetae on tergites VII and VIII much smaller and thinner and lighter in color than the macrosetae on the other tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12, 12, 12, 10, 10, 6-8. The macrosetae on sternite VIII are arranged irregularly in 2 rows. Median lobe of male genitalia shaped as in Fig. 74. Female unknown. Note that the chaetae shown in Fig. 1 are somewhat impressionistic.

Measurements. - Pronotum length, 0.46; elytra length, 0.35. Number measured, 1.

Holotype. - Male, no. 14597, Zambia, Mbala (Abercorn), 15 May 1970, ex nest T-327, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2119.

Paratypes. - 1 male, same data as holotype, (D. K.).

Notes. - These specimens came from a mixed colony of Thoracotermes lusingensis Harris and Cubitermes oblectatus Williams. Because no Termitusa were recovered from any pure colonies of Thoracotermes it is highly likely that the actual host of the species is the Cubitermes. The host termites were determined by R. M. C. Williams, specimens of which are in the British Museum (Natural History) and Kistner. The species is named after Dr. W. G. H. Coaton in honor of his studies of the termites of Southern Africa.

Termitusa delignei n. sp.

Figures 23, 52, 79, 97

Distinguished from T. pasteelsi, to which it is most closely related, by the shape of the carinate male genitalia, slight differences in the female spermatheca, and its smaller size.

Color dark reddish-brown throughout with the appendages and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with very few secondary setae between the macrochaetae. Macrochaetae relatively short in this species. Macrochaetotaxy of pronotum as in Fig. 23; setae counts are 4, 2, 3, 3. Macrochaetotaxy of elytra as in Fig. 52; setae counts are 2, 3, 1, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2. The macrochaetae on abdominal tergites VII and VIII are shorter and thinner than those on preceeding segments. Macrochaetae on tergites II and the middle macrochaetae of tergite III are also short and thin. Many secondary setae on tergites VII and VIII where they are particularly conspicuous toward the posterior third of tergite VIII. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 10, 8, 6, 6, 6, 6. Six of the 8 macrochaetae on abdominal sternite III are shorter and thinner than all the rest of the macrochaetae. Median lobe of male genitalia carinate, shaped as in Fig. 79. Spermatheca shaped as in Fig. 97.

Measurements. - Pronotum length, 0.41-0.48; elytra length, 0.34-0.39. Number measured, 10.

Holotype. - Male number 14933, Gabon, Mekob, (Ivindo), 14 km. upstream from Makokou, 8 May 1962, Coll. J. M. Pasteels and J. Deligne, no. 1072. In the collection of Deligne and Pasteels, Brussels.

Paratypes. - 17, same data as holotype, (J. M. P., D. K.).

Notes. - The host termites were determined to be Cubitermes heghi Sjoestedt, by J. M. Pasteels, and are in the collection of Deligne and Pasteels, Brussels.

Termitusa dybasi n. sp.

Figures 24, 53, 98

Most closely related to T. leleupi from which it is distinguished by the chaetotaxy of the pronotum and elytra and the shape of the female spermatheca.

Color reddish-brown throughout with the antennae and legs somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny without light yellow setae scattered in amongst the heavier macrosetae. Macrochaetotaxy of pronotum as in Fig. 24; counts are 6, 3, 3, 3. Macrochaetotaxy of elytra as in Fig. 53; setae counts are 2, 1, 3, 1, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 0. There are some light yellow setae scattered in amongst the darker setae of the abdomen. Macrosetae on segment VII are lighter in color and thinner than the macrosetae of the other abdominal tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal stergites III-VIII as follows: 8, 8, 8, 6, 6, 0. Spermatheca shaped as in Fig. 98. Male genitalia unknown.

Measurements. - Pronotum length, 0.48; elytra length, 0.34. Number measured, 1.

Holotype. - Female, 14907, Cameroun, Tiko, October 1933, Coll. H. Piening. In the collection of the Field Museum of Natural History, Chicago.

Notes. - The host of this species is unknown although there is a notation on the label that it was taken from a termite nest. The species is named for Henry S. Dybas, Curator of Insects in the Field Museum of Natural History, Chicago.

Termitusa escalarae Fauvel

Figures 25, 54, 75, 99

Termitusa escalarae Fauvel 1906: 289 - Institut Royal des Sciences naturelles de Belgique, Brussels-(Biafra, Cabo San Juan, Rio Muni, with Cubitermes sp.); Wasmann 1911: 163 (Gabon); Seevers 1957: 211 (redescription).

Related to T. mundus from which it is distinguished by the chaetotaxy of the abdominal sternite VIII, the presence of secondary setae between the macrochaetae of the pronotum, and the shape of the male genitalia and spermatheca.

Color reddish brown throughout with the pronotum and head somewhat darker than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with very few secondary setae between the macrochaetae. Macrochaetotaxy of pronotum as in Fig. 25; setae counts are 4, 2, 3, 3. Macrochaetotaxy of elytra as in Fig. 54; setae counts are 2, 1, 3, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 2, 4, 4, 4, 4, 2. Macrosetae on tergite VII and VIII are smaller, thinner, and somewhat lighter in color than the macrochaetae on the rest of the tergites. Apical 4th of tergite VIII covered with many light colored secondary setae. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 8, 6, 6, 6. Median lobe of male genitalia shaped as in Fig. 75. Spermatheca shaped as in Fig. 99.

Measurements. - Pronotum length, 0.42-0.45; elytra length, 0.31-0.34. Number measured, 10.

Material examined. - Type, Biafra, Cabo San Juan, Aug. 1901, Coll. Escalera, (I. R. S. N. B.); 18, Cameroons, Douala, Sept. 1912, Coll. Rothkirch, (N. H. M., D. K.).

Notes. - The termites are as yet unidentified.

Termitusa hexasetosa n. sp.

Figures 26, 45, 55, 80, 100

Closely related to T. quadricollis from which it is distinguished by the chaetotaxy of the pronotum and elytra, and the shape of the median lobe of the male genitalia and spermatheca.

Color dark reddish brown throughout with the antenna and legs a little lighter than the rest of the body. Dorsal surface of the head, pronotum, elytra, and abdomen smooth and shiny with essentially no secondary setae scattered in among the primary macrosetae. Macrochaetotaxy of pronotum as in Fig. 26; setae counts are 4, 3, 2, 3, 4. Macrochaetotaxy of elytra as in Fig. 55; setae counts are 2, 2, 2, 3, 3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 6, 6, 6, 6, 2. There are very few shorter and thinner

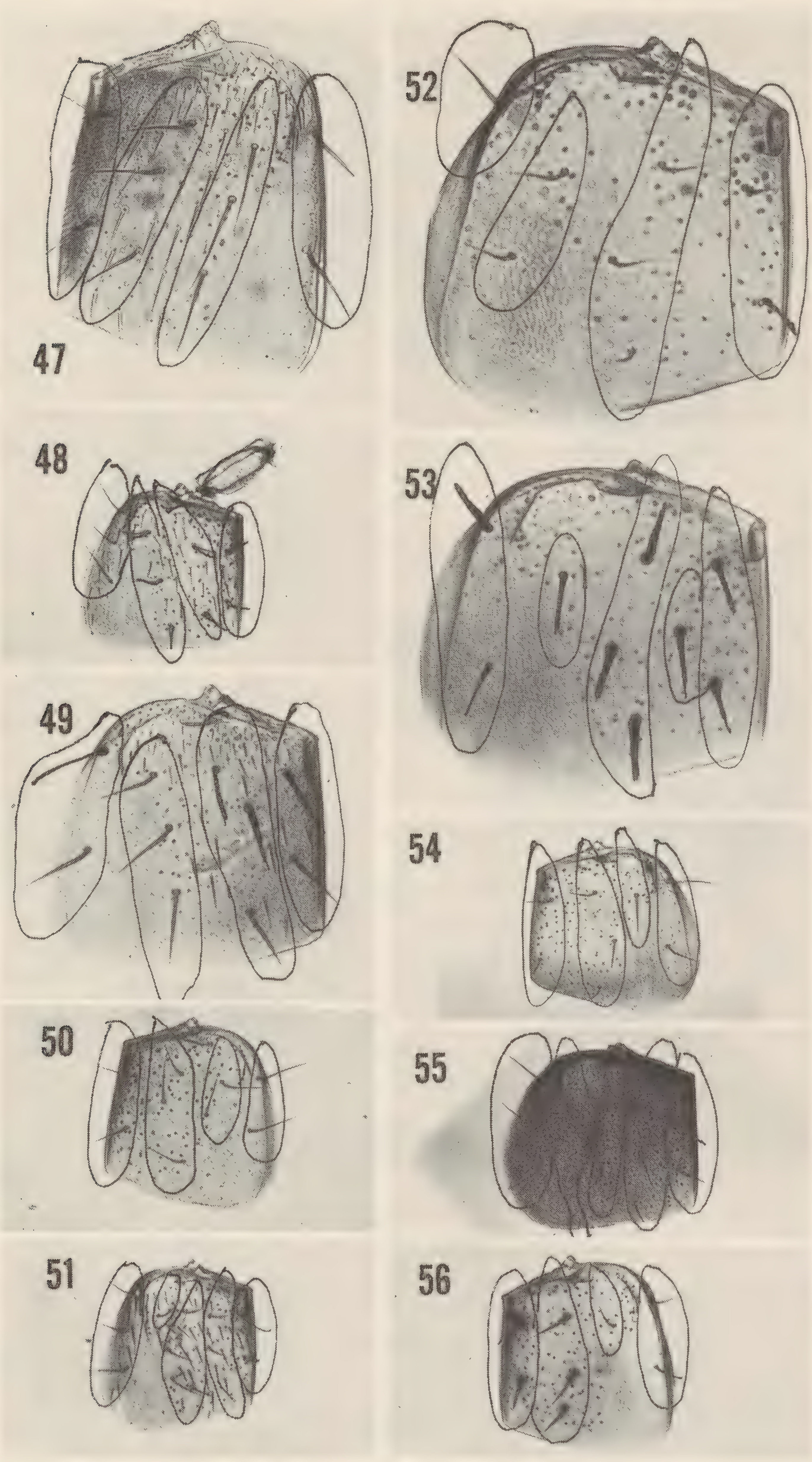


Fig. 47-56. -- Elytra: 47, *Termitusa atlanticus*; 48, *T. boultoni*; 49, *T. cameroni*; 50, *T. cloveri*; 51, *T. coatoni*; 52, *T. delignei*; 53, *T. dybasi*; 54, *T. escalarae*; 55, *T. hexasetosa*; 56, *T. hystrix*.

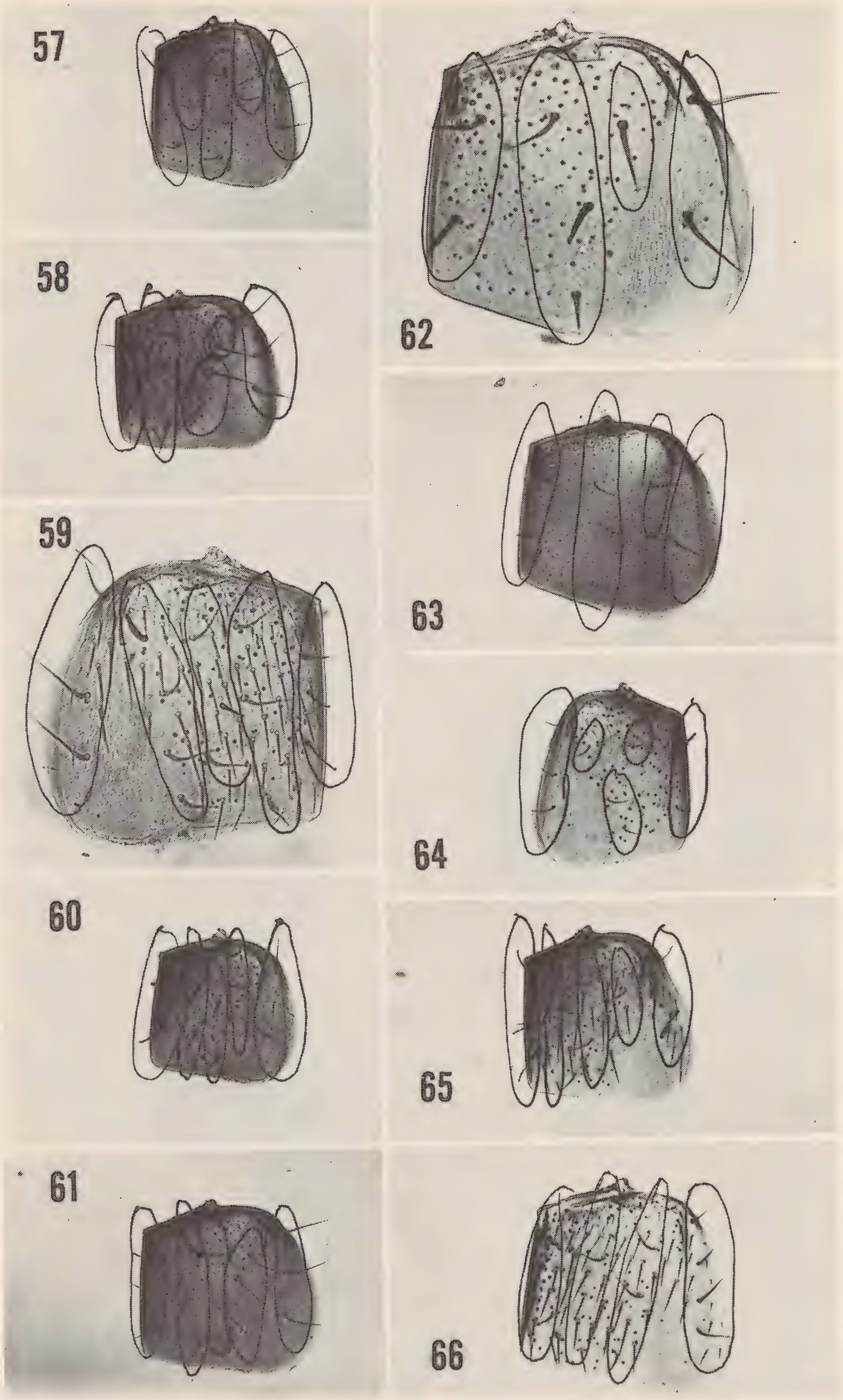


Fig. 57-66. -- Elytra: 57, T. katangensis; 58, T. leleupi; 59, T. lujae; 60, T. minor, 61, T. mixaseta; 62, T. mundus; 63, T. pasteelsi; 64, T. quadricollis; 65, T. regina; 66, T. sheasbyi.

setae in among the macrosetae. Macrosetae on tergites VII and VIII are shorter and thinner than the macrosetae on the other tergites. Paratergites without macrosetae. Macrochaetotaxy of sternites III-VIII as follows: 12, 12, 12, 10, 10, 4-10. Median lobe of male genitalia shaped as in Fig. 80. Spermatheca shaped as in Fig. 100.

Measurements. - Pronotum length, 0.51-0.55; elytra length, 0.38-0.40. Number measured, 7.

Holotype. - Male, no. 14615, Zaire, Katanga, Tshila-Tembo, 20 Feb. 1949, Coll. N. Leleup, ex termite nest no. 1. In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Paratypes. - Zaire, Katanga: 2, same data as holotype, (M. R. A. C., D. K.); 2, Massif des Kundelungu, 15 Jan. 1949, Coll. N. Leleup, ex termite nest no. 7, (M. R. A. C., D. K.); 2, Kundelungu, 1750 m. 23 Apr. 1950, Coll. N. Leleup, ex nest M. C. no. 7, (M. R. A. C., D. K.).

Notes. - The host termites have not been identified.

Termitusa hystrix Wasmann

Figures 27, 56, 76, 101

Termitusa hystrix Wasmann 1911: 159, 163, pl. 5, Fig. 10 (Belgian Congo, Sankuru, with Cubitermes fungifaber (Sjoestedt); Hegh 1922: 613, Fig. 421; Seevers 1957: 211 (redescription)

Closely related to T. ugandae from which it is distinguished by the chaetotaxy of the pronotum and elytra and the shape of the male genitalia and spermatheca.

Color reddish brown throughout with the abdomen somewhat lighter than the head, pronotum, and elytra. Dorsal surface of the head, pronotum, elytra, and abdomen, smooth and shiny with very few punctures scattered randomly about. Chaetotaxy of pronotum as shown in Fig. 27 with the setae counts from the middle to the outside as follows: 4, 3, 3, 3. Macrochaetotaxy of elytra as in Fig. 56 with the row counts as follows: 2, 3, 1, 2. The 2 rows on the outside of elytra are much finer and shorter than the 2 rows on the interior of the elytra. There are no fine short setae interspersed between the major setae on either the pronotum or the elytra. Macrochaetotaxy of abdominal tergites II-VIII as follows: 4, 4, 4, 4, 4, 4, 2. Those on segments VII and VIII are much thinner and shorter than the setae on the rest of the segments. Paratergites without macrochaetae, although the most lateral setae on the sternites are so close to the paratergites as to appear to come from them. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 6, 6, 6, 6. Macrochaetae on sternite III are shorter and thinner than the macrochaetae on the rest of the segments. Macrochaetae on sternites VI-VIII appear to be set on special thickening of the exoskeleton somewhat resembling tubercles. Segment IX with 3 macrochaetae on each of the center parts and 1 macrochaeta on each of the lateral parts. Median lobe of male genitalia shaped as in Fig. 76. Spermatheca shaped as in Fig. 101.

Measurements. - Pronotum length, 0.45-0.47; elytra length, 0.33-0.35. Number measured, 2.

Material examined. - Type and cotype, Zaire, Kasai, Sankuru, Nov. 1907, Coll. E. Luja, (N. H. M.); 1 male, 1 female, Zaire, Yangambi, 4

July 1960, Berlese, nest no。297, Coll。J。Décelle, no。298, (D。K。)。

Notes。- The host for the specimens taken at Yangambi were determined to be Cubitermes fungifaber (Sjoestedt) by Kumar Krishna. Specimens of the hosts are in the collection of the American Museum of Natural History, New York。

Termitusa katangensis n. sp.

Figures 28, 57, 81, 102

Closely related to T。hexasetosa from which it is distinguished by the chaetotaxy of the pronotum, the chaetotaxy of the elytra, and the shape of the male genitalia and the female spermatheca。

Color dark reddish brown throughout with the legs and antenna somewhat lighter than the rest of the body。Dorsal surface of the head, pronotum, elytra, and abdomen smooth and shiny with numerous fine yellow setae scattered in among the dark macrochaetae。Macrochaetotaxy of pronotum as in Fig. 28; setae counts are 5, 3, 1, 3, 3。Macrochaetotaxy of elytra as in Fig。57; setae counts are 2, 3, 3, 2, 3。Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 6, 6, 6, 6, 2。There are many fine yellow setae scattered in among the darker macrochaetae on the abdomen, expecially on tergite VII and the apical portion of tergite VIII。Paratergites without macrochaetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12, 12, 12, 10, 10, 4-8。Median lobe of male genitalia shaped as in Fig。81。Spermatheca shaped as in Fig。102.

Measurements。- Pronotum length, 0.45-0.49; elytra length, 0.35-0.38。Number measured, 10。

Holotype。- Male, no。14616, Zaire, Elisabethville, 15 Mar. 1949, Coll。N。Leleup, ex nest no。54。In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Paratypes。- 13, same data as holotype, (M。R。A。C., D。K.)。

Notes。- The host termites have not been identified.

Termitusa leleupi n。sp。

Figures 29, 58, 82, 103

Distinguished from T。muneris to which it is most closely related by its larger size, the chaetotaxy of the elytra, and the shape of the male genitalia and spermatheca。

Color dark reddish brown throughout with the abdomen and legs somewhat lighter than the rest of the body。Dorsal surface of the head, pronotum, and elytra smooth and shiny with many fine yellow setae scattered in among the macrosetae. Macrochaetotaxy of the pronotum as in Fig。29; setae count is 5, 3, 1, 3, 3. Macrochaetotaxy of elytra as in Fig. 58; setae count is 2, 3, 2, 1, 3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2。There are many fine yellow setae scattered in among the macrosetae。Macrosetae on tergites VII and VIII are finer and thinner than the macrosetae on the rest of the abdomen。Paratergites without macrosetae。Macrochaetotaxy of abdominal sternites III-VIII as follows:

2-8, 2-8,8,8,6,6; the 2 on sternites III and IV are lateral. Male genitalia shaped as in Fig. 82. Female spermatheca shaped as in Fig. 103.

Measurements. - Pronotum length, 0.52-0.55; elytra length, 0.36-0.39. Number measured, 10.

Holotype. - Male, no. 14539, Zaire, Katanga, Tshila-Tembo, 20 Feb. 1949, Coll. N. Leleup, in termite Nest No. 1. In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Paratypes. - 10, same data as holotype, (M. R. A. C., F. M. N. H., D. K.); 3, Zaire, Katanga, Tshila-Tembo, 20 Feb. 1949, Coll. N. Leleup, from an ant nest, (M. R. A. C., D. K.); 6, Zaire, Katanga, Lukuni, 30 Dec. 1948, Coll. N. Leleup, ex termite nest no. 9, (M. R. A. C., D. K.).

Notes. - The host termites have not been identified. The species is named for the collector, Dr. N. Leleup.

Termitusa lightningae n. sp.

Figures I A - C

Related to T. escalarae and T. mundus but easily distinguishable from them by the chaetotaxy of the abdomen, the pronotum, the elytra, and the shape of the female spermatheca.

Color dark reddish brown throughout with the abdomen somewhat lighter than the rest of the body; legs somewhat lighter than this. Dorsal surface of the head, pronotum, and elytra smooth and shiny with a sparse vestiture of microsetae. Macrochaetotaxy of pronotum as in Fig. I C; counts from the midline are: 4, 3, 1, 3, 4. Macrochaetotaxy of elytra as follows: 3, 3, 1, 3, 4; as in Fig. I A. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 2, 4, 4, 4, 4, 2. All of the macrosetae are interspersed with numerous pale yellow setae. Setae on tergites VII and VIII are shorter and thinner than those on the rest of the tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 10, 10, 10, 8, 8, 6. All of the macrosetae are interspersed with numerous pale yellow setae. Male unknown. Spermatheca shaped as in Fig. I B.

Measurements. - Pronotum length, 0.42; elytra length, 0.30. Number measured, 1.

Holotype. - Female, number 14946, Guinea, Kamsar, 9 October 1972, ex nest T-427, Coll. D. H., A. C., A. H., and K. M. C. Kistner, No. 2489. In the collection of D. H. Kistner.

Notes. - The host termites were determined to be Cubitermes sp. by Kistner, specimens of which are in the collection of the British Museum (Natural History), London and the collection of D. H. Kistner. The termites were not similar to any available in the Kistner collection. The species is named for the Farrell Lines ship S. S. African Lightning on whose decks the nests from Kamsar, Guinea were necessarily sorted. This name not only honors a great merchant vessel but also her captain, E. Shuttleworth, and crew who were so helpful to us in our collecting efforts.

Termitusa lujae Wasmann

Figures 30, 59, 88

Termitusa lujae Wasmann 1911: 156, 159, 164 - Naturhistorisch Museum, Maastricht - (Belgian Congo, Sankuru, with *Cubitermes sankurensis* Wasmann; Seevers 1957: 211 (redescription)

Most closely related to *T. boultoni* from which it is distinguished by the chaetotaxy of the pronotum, elytra, and the shape of the male genitalia.

Color dark reddish brown throughout with the abdomen somewhat lighter than the rest of the body, legs somewhat lighter than this. Dorsal surface of the head, pronotum, and elytra smooth and shiny beneath the very dense vestiture of setae. Macrochaetotaxy of pronotum as in Fig. 30; counts from the midline are: 4,4,1,3,3. Macrochaetotaxy of elytra as follows: 3,3,3,4,3; as in Fig. 59. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,6,6,6,6,6,2. All of the macrosetae are interspersed with numerous pale yellow setae. Setae on tergites VII and VIII are shorter and thinner than those on the rest of the tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 10,10,8,8,8,8. Median lobe of male genitalia shaped as in Fig. 88. Spermatheca unknown.

Measurements. - Pronotum length, 0.41-0.43; elytra length, 0.36-0.38. Number measured, 2.

Material examined. - Type plus 3 co-types, Zaire, Kasai, Sankuru, Jan 1905, Coll. E. Luja, with *Cubitermes sankurensis* Wasmann, no. 19, (N. H. M., M. R. A. C.); 1, Kondué, Coll. E. Luja, (F. M. N. H.).

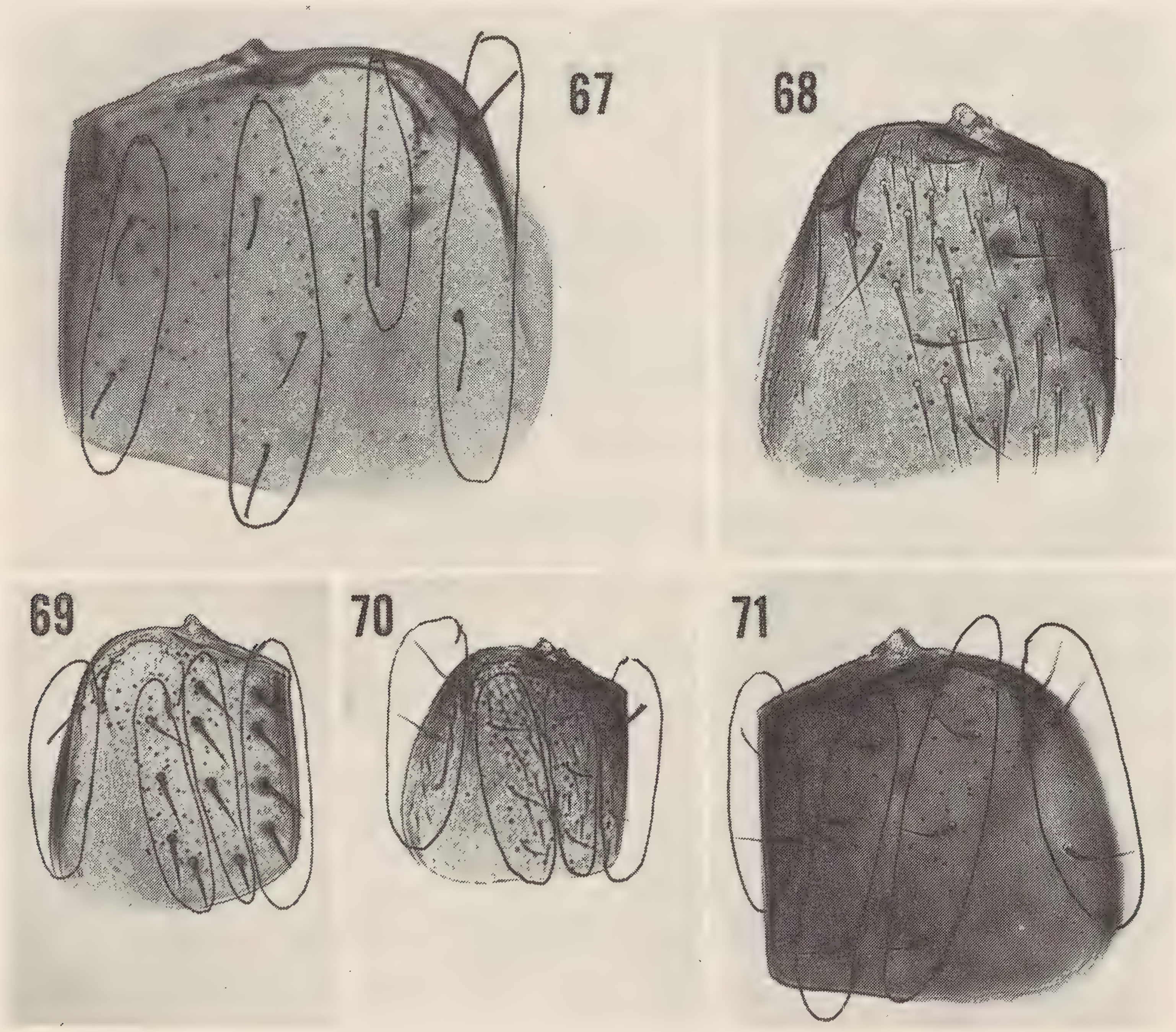


Fig. 67-71. -- Elytra: 67, *Termitusa sjoestedt*; 68, *T. superhirsutus*; 69, *T. ugandae*; 70, *T. wasmanni*; 71, *T. williamsi*.

Termitusa malawiensis n. sp.

Figures I D - F

Closely related to T. lujae and T. bandai from which it is distinguished by the chaetotaxy of the pronotum, elytra, and the shape of the female spermatheca.

Color dark reddish brown throughout with the legs and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with numerous fine yellow setae interspersed among the macrochaetae. Macrochaetotaxy of the pronotum as in Fig. I F; setae counts are 3, 3, 2, 3. Macrochaetotaxy of elytra as in Fig. I D; setae counts are 2, 2, 3, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 6, 6, 6, 6, 6, 6. There are numerous light yellow setae scattered in among the macrochaetae on the abdomen. Macrochaetae on tergites VII and VIII are thinner and lighter in color than those on the other tergites. Tergite VIII with many yellow setae on the apical half. Dorsal margin of tergite VIII indented. No macrochaetae on paratergites. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 10, 8, 8, 6-8. Male unknown. Female spermatheca shaped as in Fig. I E.

Measurements. - Pronotum length, 0.39; elytra length, 0.32. Number measured, 1.

Holotype. - Female, 14965, Malawi, 10 mi. ex Kusungu-Kusungu National Park, 14 April 1973, ex nest T-589, Coll. D. H. and A. C. Kistner, No. 3047. In the collection of D. H. Kistner.

Notes. - The host termites with which this species was associated were determined to be Cubitermes tenuiceps (Sjoestedt) by Kistner. The host termites are in the collection of the British Museum (Natural History), London and the Kistner Collection. The labrum of the termites were only slightly shorter than labrums of C. tenuiceps from coastal Tanzania determined by Mr. R. M. C. Williams.

Termitusa minor n. sp.

Figures 31, 60, 104

Related to T. regina, from which it is distinguished by the chaetotaxy of the pronotum and the shape of the spermatheca.

Color dark reddish throughout with the antenna and the appendages somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with virtually no secondary setae between the macrochaetae. Macrochaetotaxy of pronotum as in Fig. 31; setae counts are 5,3,3,3. Macrochaetotaxy of elytra as in Fig. 60; setae counts are 2,2,2,2,2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4,4,4,4,4,2. There are very few light yellow setae interspersed among the macrosetae. Posterior third of abdominal tergite VIII has numerous secondary setae. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 2-8,6,6,8,6,6; the 2 on sternite III are lateral. Spermatheca shaped as in Fig. 104. Male unknown.

Measurements. - Pronotum length, 0.45; elytra length, 0.35-0.36. Number measured, 2.

Holotype. - Female, no. 14619, Zaire, Kundelungu, 1750 m, Apr. 1950, Coll. N. Leleup, ex termite nest MC 8. In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Paratype. - 1 female, same data as holotype, (D. K.).

Notes. - The identity of the host termites is not known.

Termitusa mixaseta n. sp

Figures 32, 61, 83

Closely related to T. sheasbyi from which it is distinguished by the chaetotaxy of the abdomen, the pronotum, the elytra, and the shape of the male genitalia and spermatheca.

Color dark reddish brown throughout with the appendages and antenna somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with no secondary setae scattered about. Macrochaetotaxy of pronotum as in Fig. 32; setae counts are 4, 3, 1, 3, 5. Macrochaetotaxy of elytra as in Fig. 61; setae counts are 3, 3, 2, 3, 3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 6, 6, 4, 2. There are numerous thin light setae scattered in amongst the setae of tergite VII and VIII particularly the posterior half of tergite VIII. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12, 12, 12, 12, 10, 6-10. The 2 rows of setae on sternite VIII are not absolutely distinct. Male genitalia shaped as in Fig. 83. Female unknown.

Measurements. - Pronotum length, 0.51-0.52; elytra length, 0.39-0.40. Number measured, 2.

Holotype. - Male, no. 14618, Zaire, Katanga, Massif des Kundelungu, 15 Jan. 1949, Coll. N. Leleup, ex termite nest no. 7. In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Paratype. - Male, same data as holotype, (D. K.).

Notes. - The host termites are not identified.

Termitusa mundus (Bernhauer)

Figures 33, 62, 105

Glaphyrinus mundus Bernhauer and Paulian 1942: 375 (Field Museum of Natural History, Chicago, (Cameroons, Edéa, in the upper galleries of a termitary).

Termitusa mundus Seevers 1957: 212 (redescription and changed generic name.)

Distinguished from T. escalarae by the chaetotaxy of the abdominal sternite VIII, the elytra, and the shape of the spermatheca.

Color dark reddish brown throughout with the appendages and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with no secondary setae scattered about. Macrochaetotaxy of pronotum as in Fig. 33; setae counts are 4, 2, 3, 3. Macrochaetotaxy of elytra as in Fig. 62; setae counts are 2, 3, 1, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,2,4,4,4,4,2. The setae on tergites VII and VIII are shorter and thinner than those on the rest of the segments. Paratergites without macrosetae. Macrochaetotaxy of abdominal stergites III-VIII as follows: 8,8,8,6,6,4. Male genitalia unknown. Spermatheca shaped as in Fig. 105.

Measurements. - Pronotum length, 0.45; elytra length, 0.32. Number measured, 1.

Material examined. - Female Holotype, Cameroon, Edéa, Coll. P. Lepesme, R. Paulian, and A. Villiers, (F. M. N. H.).

Notes. - The host of this species is unknown. While the paper has 2 authors, the species are credited to Bernhauer in the text.

Termitusa muneris, n. sp.

Figures 3, 4, 6-8, 10, 13, 15, 34, 89, 106

Most closely related to *T. cloveri* from which it is distinguished by the chaetotaxy of the elytra and the shape of the male genitalia and spermatheca.

Color reddish brown throughout with the head and pronotum a little darker than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny except for the presence of numerous setae which are characteristic of the species. Macrochaetotaxy of the pronotum as in Fig. 34; counts are 5,3,1,3,3 with many smaller, thinner, and lighter colored setae scattered between them. Macrochaetotaxy of elytra with counts as 2,3,1,3,3 with many smaller, thinner, and lighter setae scattered between them especially on the inner half and the basal half. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,4,4,4,4,2. The macrosetae on segments VII and VIII are smaller, thinner, and somewhat lighter in color than those on the rest of the segments. All segments with smaller, thinner, and lighter setae on the surface between and anterior to the apical, darker setae. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,8,8,6. Segment VIII with an additional brush of lighter and thinner setae on the posterior third. Macrochaetotaxy of abdominal segment IX as follows: 3 each on the median pieces and 2 on each lateral piece. Median lobe of male genitalia shaped as in Fig. 89. Spermatheca shaped as in Fig. 106.

Measurements. - Pronotum length, 0.40-0.45; elytra length 0.30-0.38. Number measured, 10.

Holotype. - Male, no. 14614, Zambia, Mbala (Abercorn), 15 May 1970, ex nest T-329, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2126. In the collection of D. H. Kistner.

Paratypes. - Zambia, Mbala (Abercorn): 27, same data as holotype, (D. K.); 3 males, 1 female, 10 May 1970, ex nest T-317, same collectors, no. 2088, (D. K.); 4, 14 May 1970, ex nest T-324, same collectors, no. 2111, (D. K.); 16, 16 May 1970, ex nest T-330, same collectors, no. 2130 (D. K.); 57, 16 May 1970, ex nest T-331, same collectors, no. 2132 (D. K.); 62, 16 May 1970, ex nest T-335, same collectors, no. 2145, (D. K.); 12, Zambia, 10 mi. ex Mbala-Mpulungu, 22 May 1970, ex nest T-339, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2177, (D. K.); 12 same data as previous, 22 May 1970, ex nest T-340, same collectors, no. 2179, (D. K.).

Notes. - All of the host termites were determined to be Cubitermes muneris Sjoestedt by R. M. C. Williams. Specimens of the hosts are in the collection of the British Museum (Natural History), London, and D. Kistner.

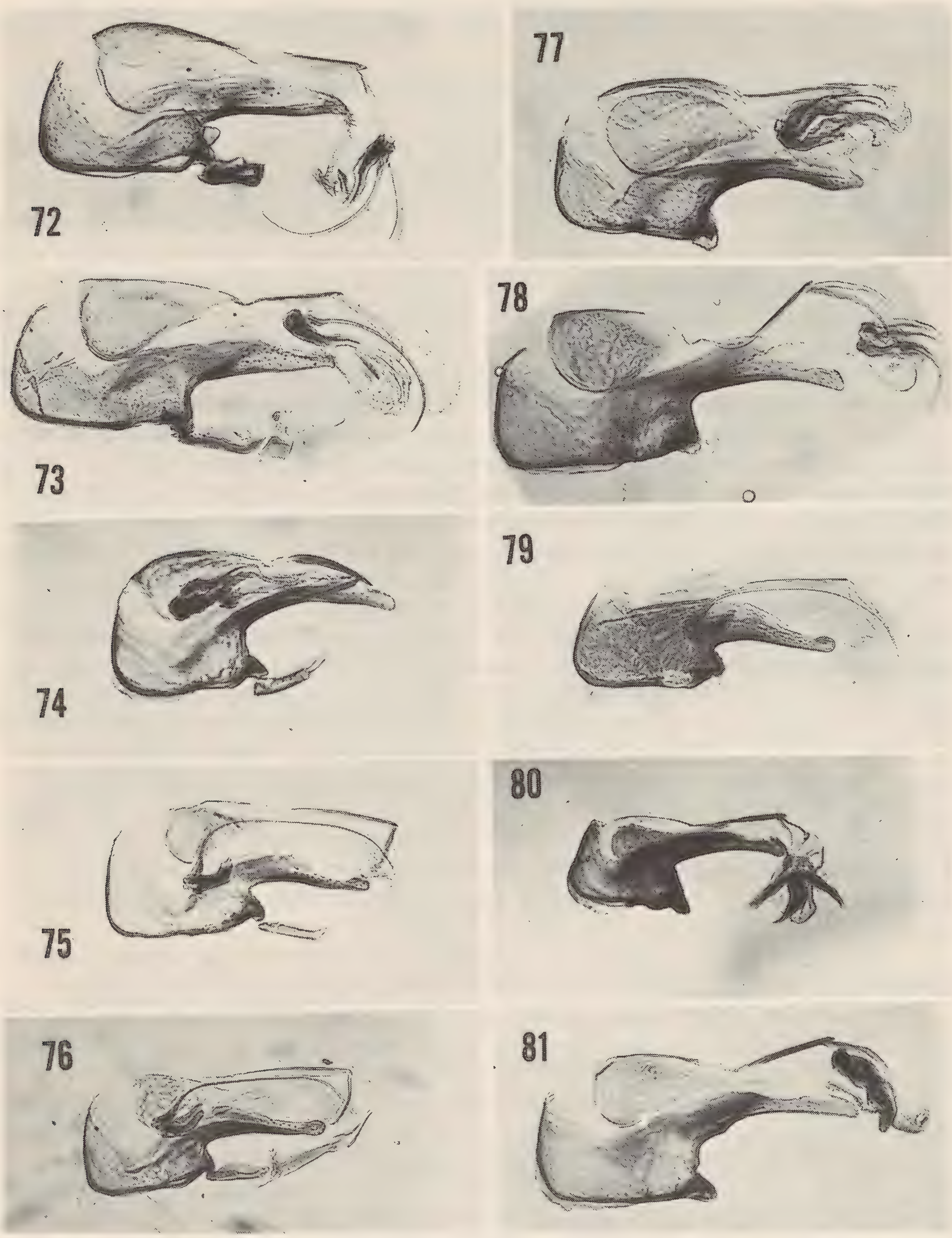


Fig. 72-81. -- Median lobes of male genitalia: 72, Termitusa atlanticus; 73, T. cameroni; 74, T. coatoni; 75, T. escalarae; 76, T. hystrix, 77, T. boultoni; 78, T. cloveri; 79, T. delignei; 80, T. hexasetosa; 81, T. katangensis.

Termitusa pasteelsi n. sp.

Figures 35, 63, 84, 107

Termitusa sp. Pasteels 1969: 18, gland; 5, behavior.

Distinguished from T. delignei, to which it is most closely related, by the chaetotaxy of the pronotum, elytra, and abdomen, and the shape of the male genitalia and female spermatheca.

Color dark reddish brown throughout with the appendages and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with very few secondary setae between the macrochaetae. Even the macrochaetae are relatively short in this species. Macrochaetotaxy of pronotum as in Fig. 35; setae counts are 4, 2, 3, 3. Macrochaetotaxy of elytra as in Fig. 63; setae counts are 2, 3, 1, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2. The macrochaetae on abdominal tergites VII and VIII are shorter and thinner than those on preceeding segments. Macrochaetae on tergite II and the middle macrochaetae of tergite III are also short and thin. Many secondary setae on tergites VII and VIII where they occupy the posterior third of tergite VIII. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 6, 6, 6, 6. Median lobe of male genitalia shaped as in Fig. 84. Spermatheca shaped as in Fig. 107.

Measurements. - Pronotum length, 0.55-0.62; elytra length, 0.41-0.43. Number measured, 10.

Holotype. - Male, no. 14923, Gabon, Mekop (Ivindo), 14 km upstream from Makokou, 8 May 1962, Coll. J. Deligne and J. M. Pasteels no. 1040. In the collection of Deligne and Pasteels, Brussels.

Paratypes. - Gabon: 10, same data as holotype, (J. M. P., D. K.); 2, between Makokou and Mekembo, 8 June 1962, Coll. J. M. Pasteels, no. 1069, (D. K.).

Notes. - The host termites were determined to be Cubitermes heghi Sjoestedt by R. M. C. Williams.

Termitusa quadricollis Cameron

Figures 36, 64, 90, 108

Termitusa quadricollis Cameron 1952: 331 (Musée Royal de l'Afrique Centrale, Tervuren) Belgian Congo: Massif des Kundelungu, no host; Seevers 1957: 213 (redescription)

Distinguished from T. coatoni and T. hexasetosa by the chaetotaxy of the pronotum and elytra and the shape of the male genitalia and spermatheca.

Color reddish brown throughout with the apex of the abdomen and the legs and antenna somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny, without secondary setae between the large setae on the head and pronotum. Macrochaetotaxy of pronotum as in Fig. 36; setae counts are 4, 3, 3, 3. Macrochaetotaxy of elytra as in Fig. 64; setae counts are 2, 1, 2, 1, 3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 6, 6, 6, 6, 2. There are many yellow setae between the macrochaetae between tergites VII and VIII. Macrochaetae on tergites VII and VIII smaller and thinner than the macrochaetae on the other abdominal tergites. Tergite VIII with a thick vestiture of fine yellow setae on the apical half. Paratergites without any macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12, 12, 12, 10, 10, 6-8. Male genitalia shaped as in Fig. 90. Female spermatheca shaped as in Fig. 108.

Measurements. - Pronotum length, 0.44-0.46; elytra length, 0.35-0.37. Number measured, 5.

Material examined. - Type and 5 paratypes, Zaire, Katanga, Massif des Kundelungu, 15 Jan. 1949, Coll. N. Leleup, with termite no. 7, (M. R. A. C.); 3, same data as type series, (M. R. A. C., D. K.); 2 males, Zaire, Katanga, Elisabethville, 27 Dec. 1948, Coll. N. Leleup, in small termite nest, (M. R. A. C., D. K.).

Notes. - The host termites have not been identified.

Termitusa regina n. sp.

Figures 37, 65, 109

Closely related to T. cloveri from which it is distinguished by the shape of the spermatheca and the chaetotaxy of the elytra.

Color dark reddish brown throughout with the antenna and legs somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with numerous fine yellow setae scattered evenly between the macrosetae. Macrochaetotaxy of pronotum as in Fig. 37; setae counts are 5, 3, 1, 3, 3. Macrochaetotaxy of elytra as in Fig. 65; setae counts are 3, 3, 2, 2, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 4. There are numerous fine setae in between the macrosetae on the tergites. Macrosetae on tergites VII and VIII smaller, thinner, lighter in color than those on the rest of the tergites. No macrosetae on the paratergites. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12, 10, 10, 10, 8, 6-8. Spermatheca shaped as in Fig. 109. Male unknown.

Measurements. - Pronotum length, 0.49; elytra length, 0.39. Number measured, 1.

Holotype. - Female, no. 14605, Zaire, Elisabethville, 27 Dec. 1948, Coll. N. Leleup, ex termite nest no. 11. In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Notes. - The termite host has not been identified.

Termitusa ruellei n. sp.

Figures 38, 85, 110

Most closely related to T. sheasbyi from which it is distinguished by the chaetotaxy of the pronotum, the shape of the spermatheca, and the slightly smaller male genitalia. Closely related to T. lujae from which it is distinguished by the chaetotaxy of the pronotum and elytra.

Color dark reddish brown throughout with the abdomen somewhat lighter than the rest of the body; legs somewhat lighter than this. Dorsal sur-

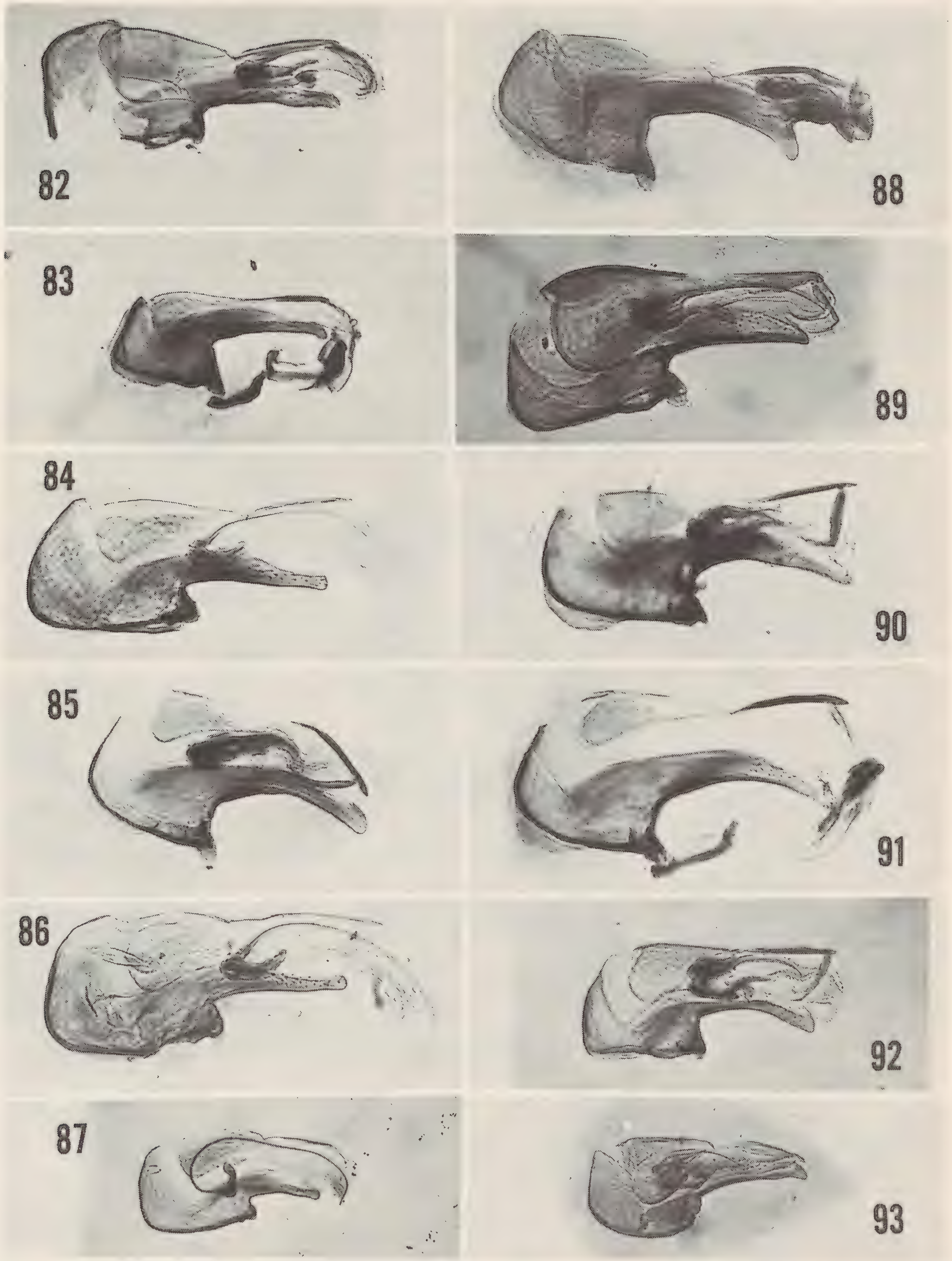


Fig. 82-93. -- Median lobes of male genitalia: 82, Termitusa leleupi; 83, T. mixaseta; 84, T. pasteelsi; 85, T. ruellei; 86, T. sjoestedti; 87, T. ugandae; 88, T. lujae; 89, T. muneris; 90, T. quadricollis; 91, T. sheasbyi; 92, T. superhirsutus; 93, T. williamsi.

face of the head, pronotum, and elytra smooth and shiny with a very dense vestiture of setae. Macrochaetotaxy of pronotum as in Fig. 38 counts from the midline are 4, 3, 3, 3. The upright macrosetae are scarcely distinguishable from the very numerous lighter and more recumbent microsetae. Macrochaetotaxy of elytra as in *T. sheasbyi*; counts are: 2, 2, 2, 4. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2. All of the macrosetae are interspersed with numerous pale yellow setae. Setae on tergites VII and VIII are shorter and thinner than those on the rest of the tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 14, 12, 12, 12, 10, 4-10. Median lobe of male genitalia shaped as in Fig. 85. Spermatheca shaped as in Fig. 110.

Measurements. - Pronotum length, 0.42-0.46; elytra length, 0.32-0.34. Number measured, 9.

Holotype. - No. 14631, Republic of South Africa, Transvaal, Waterberg District, Rankin's Pass, 22 Nov. 1971, ex nest TM25657, Coll. J. L. Sheasby, T-851. In the National Collection of Insects, Pretoria.

Paratypes. - 8, same data as holotype, (N. C. I., D. K.).

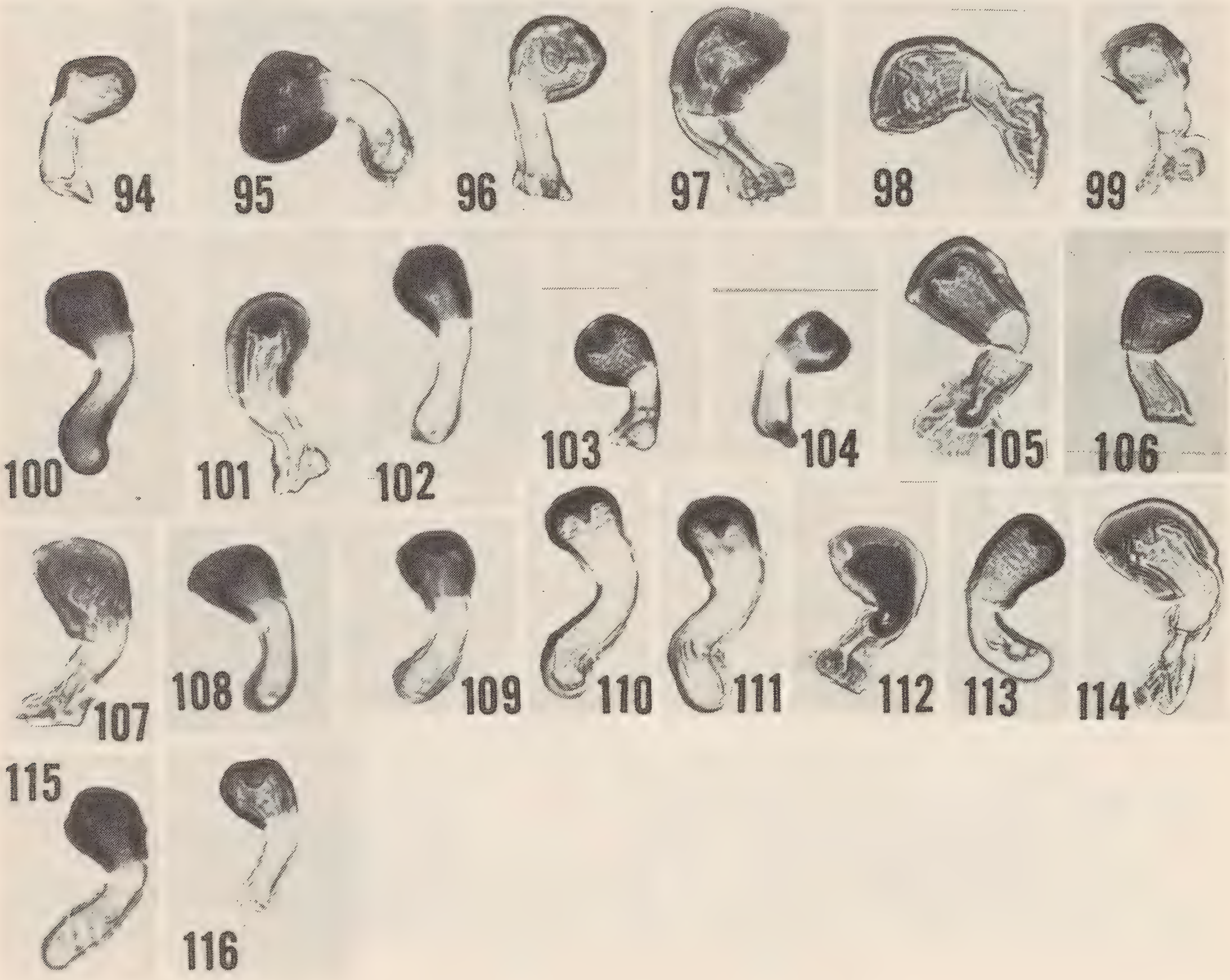
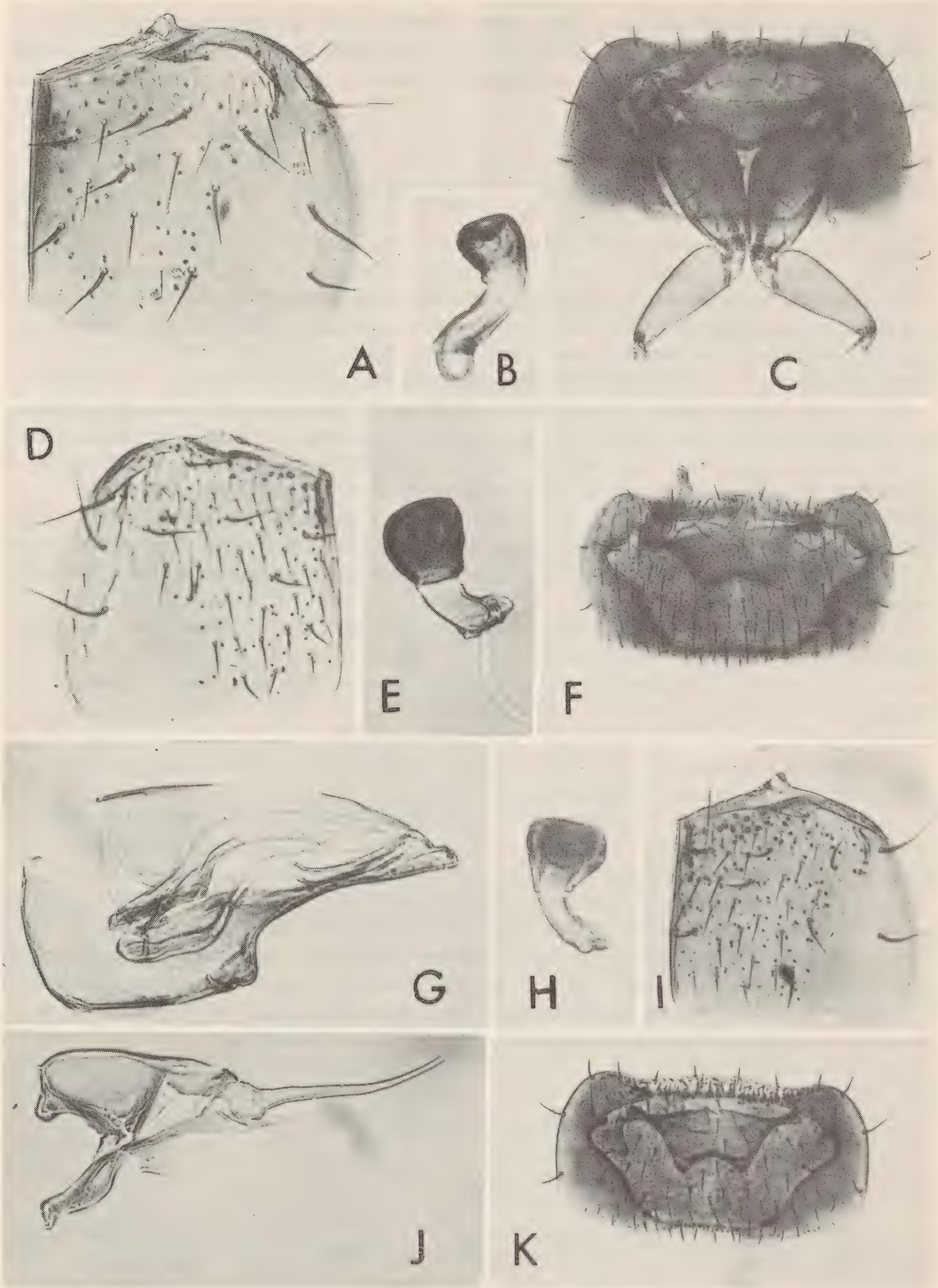


Fig. 94-116. -- Spermathecae: 94, *Termitusa atlanticus*; 95, *T. boultoni*; 96, *T. cloveri*; 97, *T. delgnei*; 98, *T. dybasi*; 99, *T. escalarae*; 100, *T. hexasetosa*; 101, *T. hystrix*; 102, *T. katangensis*; 103, *T. leleupi*; 104, *T. minor*; 105, *T. mundus*; 106, *T. muneris*; 107, *T. pasteelsi*; 108, *T. quadricollis*; 109, *T. regina*; 110, *T. ruellei*; 111, *T. sheasbyi*; 112, *T. sjoestedti*; 113, *T. superhirsutus*; 115, *T. ugandai*; 116, *T. wasmanni*.



Special plate I. -- *Termitusa lightningae*: A, Right elytron; B, Spermatheca; C, Pronotum. *T. malawiensis*: D, Left elytron; E, Spermatheca; F, Pronotum. *T. viegasi*: G, Median lobe of male genitalia; H, Spermatheca; I, Elytron; J, Lateral lobe of male genitalia; K, Pronotum.

Notes. - The host termites were identified as Cubitermes pretorianus Silvestri by R. M. C. Williams and are in the National Isoptera Collection, Pretoria, and British Museum of Natural History, London. The species is named after Dr. J. E. Ruelle.

Termitusa sheasbyi n. sp.

Figures 39, 66, 91, 111

Closely related to T. ruellei from which it is distinguished by the chaetotaxy of the pronotum, the shape of the spermatheca, and the somewhat larger male genitalia. Also related to T. lujae from which it is distinguished by all of the above characteristics.

Color dark reddish brown throughout with the abdomen somwhat lighter than the rest of the body; legs somewhat lighter than this. Dorsal surface of the head, pronotum, and elytra smooth and shiny beneath the very dense vestiture of setae. Macrochaetotaxy of pronotum as in Fig. 39; counts from the midline are: 4, 3, 3, 4. Macrochaetotaxy of elytra as follows: 2, 2, 3, 4; as in Fig. 66. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2. All of the macrosetae are interspersed with numerous pale yellow setae. Setae on tergites VII and VIII are shorter and thinner than those on the rest of the tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 14, 12, 12, 12, 12, 10. All of the macrosetae are interspersed with numerous pale yellow setae. Median lobe of male genitalia shaped as in Fig. 91. Spermatheca shaped as in Fig. 111.

Measurements. - Pronotum length, 0.44-0.47; elytra length, 0.32-0.35. Number measured, 10.

Holotype. - Male no. 14231, Republic of South Africa, Transvaal, 16 km ex Sentrum-Matlabas, 20 Nov. 1971, ex nest TM 25650, Coll. J. L. Sheasby, T-849. In the National Collection of Insects, Pretoria.

Paratypes. - 63, same data as holotype, (N. C. I., D. K.); 18, same locality, date, and collector, ex nest TM 25651, no. T-849, (N. C. I., D. K.).

Notes. - Both nests of host termites were determined to be Cubitermes transvaalensis Fuller by R. M. C. Williams and are in the National Isoptera Collection, Pretoria and British Museum (Natural History), London. The species is named after the collector, Mr. J. L. Sheasby.

Termitusa sjoestedti Wasmann

Figures 40, 67, 86, 112

Termitusa sjoestedti Wasmann 1905: 200 - Naturhistorisch Museum, Maastrict, (Cameroons, Cap Debundscha, with Cubitermes fungifaber); 1911: 163, Pl. 5, Fig. 9; Hegh 1922: Fig. 421; Seevers 1957:210, (redescription, Cameroons, Longji)

Most closely related to T. pasteelsi, from which it is distinguished by the chaetotaxy of the abdomen and the shape of the spermatheca.

Color reddish brown throughout with the elytra and head somewhat darker than the pronotum and abdomen and the legs and antennae somewhat lighter than that. Dorsal surface of the head, pronotum, and elytra smooth and shiny with chaetotaxy as follows: Pronotum with the chaetae counts of 4,2,3,3; arranged as in Fig. 40. Elytra with chaetae counts of 2,3,1,2; arranged as in Fig. 62. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,4,4,4,4,2. The very prominent macrosetae on tergites III-VI are set in prominent elongated projections of the chiton which look like tubercles. Macrosetae on tergites VII-VIII are smaller, thinner, and lighter in color than those on the preceeding segments. Macrosetae on tergite VIII are interspersed in a dense brush of long fine pale setae. In general the macrosetae of the pronotum and elytra are not interspersed with numerous fine yellow setae, although there seems to be an apical row of yellow setae on each of the abdominal tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,8,8,8. The macrosetae on abdominal sternite III are thinner and shorter in length than those on the subsequent segments. Median lobe of male genitalia shaped as in Fig. 86. Spermatheca shaped as in Fig. 112.

Measurements. - Pronotum length, 0.49-0.52; elytra length, 0.35-0.36. Number measured, 2.

Material examined. - Type and cotype, Cameroons, Cap Debundscha, with Cubitermes fungifaber, (N. H. M.); 4, Cameroons, Longji, (F. M. N. H.).

Termitusa superhirsutus n. sp.

Figures 41, 68, 92, 113

Most closely related to T. sjoestedti from which it is distinguished by the chaetotaxy of the pronotum, elytra, and the shape of the spermatheca and the male genitalia.

Color dark reddish brown throughout with the abdomen somewhat lighter than the rest of the body, legs somewhat lighter than this. Dorsal surface of the head, pronotum, and elytra smooth and shiny beneath the very dense vestiture of setae. Macrochaetotaxy of pronotum as in Fig. 41; counts are meaningless because microsetae are as large as macrosetae. Macrochaetotaxy of elytra as in Fig. 68; counts are meaningless because microsetae cannot be destinguished from macrosetae. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,4,4,4,4,2. All of the macrosetae are interspersed with numerous pale yellow setae. Setae on tergites VII and VIII are shorter and thinner than those on the rest of the tergites. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,8,8,8. All of the macrosetae are interspersed with numerous pale yellow setae. Median lobe of male genitalia shaped as in Fig. 92. Spermatheca shaped as in Fig. 113.

Measurements. - Pronotum length, 0.50-0.51; elytra length, 0.29-0.30. Number measured, 2.

Holotype. - 1 female, no. 14594, Zambia, Mbala (Abercorn), 23 May 1970, ex nest T-341, Coll. J. R. Clover, D. H., and A. C. Kistner, no. 2190. In the collection of D. H. Kistner.

Paratype. - 1 male, same data as holotype, (D. K.).

Notes. - The termite hosts were determined to be Cubitermes sankurensis Wasmann by R. M. C. Williams. Host termites are in the collections of the British Museum (Natural History), London, and the Kistner collection.

Termitusa ugandae n. sp.

Figures 42, 69, 87, 115

Closely related to T. hystrix from which it is distinguished by the larger size, slight differences in the chaetotaxy of the pronotum and elytra and the shape of the median lobe of the male genitalia and the spermatheca.

Color dark reddish brown throughout with the abdomen a little lighter than the head, pronotum, and elytra and the legs and antennae still lighter than that. Dorsal surface of the head, pronotum, elytra, and abdomen smooth and shiny with macrochaetae arranged in distinctive patterns which are not interspersed with fine yellow setae. Macrochaetotaxy of pronotum as in Fig. 42; with setae counts of 5, 3, 2, 3. Macrochaetotaxy of elytra as shown in Fig. 69 with the following counts, 3, 1, 4, 3, 2, starting from the suture. Macrochaetotaxy of abdominal tergites II-VIII as follows: 4, 4, 4, 4, 4, 4, 2. Macrosetae on tergite VII and VIII are much smaller and thinner than the macrosetae on the other tergites. Macrosetae on tergites III-VI appear to be set on small tubercles. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 8, 6, 6, 6. The setae on sternites III are smaller and thinner than the setae on the other sternites. Macrochaetotaxy of abdominal segment IX as follows: 2 median parts with 4 macrosetae each, 2 outers with 2 macrosetae each. Spermatheca shaped as in Fig. 115. Median lobe of male genitalia shaped as in Fig. 87.

Measurements. - Pronotum length, 0.59-0.62; elytra length, 0.39-0.41. Number measured, 9.

Holotype. - Male, no. 14612, Uganda, Zika Forest, 9 mi ex Entebbe-Kampala, 11 July 1970, ex nest T-390, Coll. D. H., A. C., A. H., and K. M. C. Kistner, no. 2377. In the collection of D. H. Kistner.

Paratypes. - 8, same data as holotype, (D. K.).

Notes. - The host termites were determined to be Cubitermes speciosus (Sjoestedt) by R. M. C. Williams. Specimens of the host termites are in the collection of the British Museum (Natural History), London, and Kistner.

Termitusa viegasi n. sp.

Figures I G - K

Most closely related to T. atlanticus from which it is distinguished by the chaetotaxy of the elytra, the shape of the male genitalia, and the shape of the spermatheca.

Color light reddish brown throughout with the elytra and head somewhat darker than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with numerous fine yellow setae interspersed among the macrosetae. Macrochaetotaxy of pronotum as in Fig. I K; setae counts are 5, 3, 1, 3, 3. Macrochaetotaxy of elytra as in Fig. I I; setae counts are 2, 3, 2, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 4, 4, 4, 4, 4, 2. Macrosetae on tergites VII and VIII are shorter and thinner than the rest of the tergites. There are numerous light yellow setae on the apical third of abdominal segment VIII which is only slightly indented on its posterior border. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 8, 8, 2-6, 6; the 2 on sternite VII are lateral. Median lobe of male genitalia shaped as in Fig. I G. Lateral lobe of male genitalia shaped as in Fig. I J. Spermatheca shaped as in Fig. I H.

Measurements. - Pronotum length, 0.36-0.40; elytra length, 0.26-0.30. Numer measured, 5.

Holotype. - Female, No. 15000, Angola, Rio Mussanguege, nr. Calondo, 26 December 1972, ex nest T-505, Coll. D. H. Kistner, S. A. Peles, and R. J. Swift, No. 2774. In the collection of the Museo do Dundo.

Paratypes. - 4, same data as holotype, (M. D., D. K.).

Notes. - The host termites with which this species was associated were determined to be Cubitermes sp. by Kistner. The host termites are smaller than both C. pallidiceps and C. glebae. In fact, the heads were even shorter than those of C. sankurensis. The host termites are in the collection of the British Museum (Natural History), London, the Museo do Dundo, and the Kistner collection. The species is named for Sr. Jorge Viegas, Resident Director of DIAMANG, Dundo through whose courtesy we were extended many privileges.

Termitusa wasmanni n. sp.

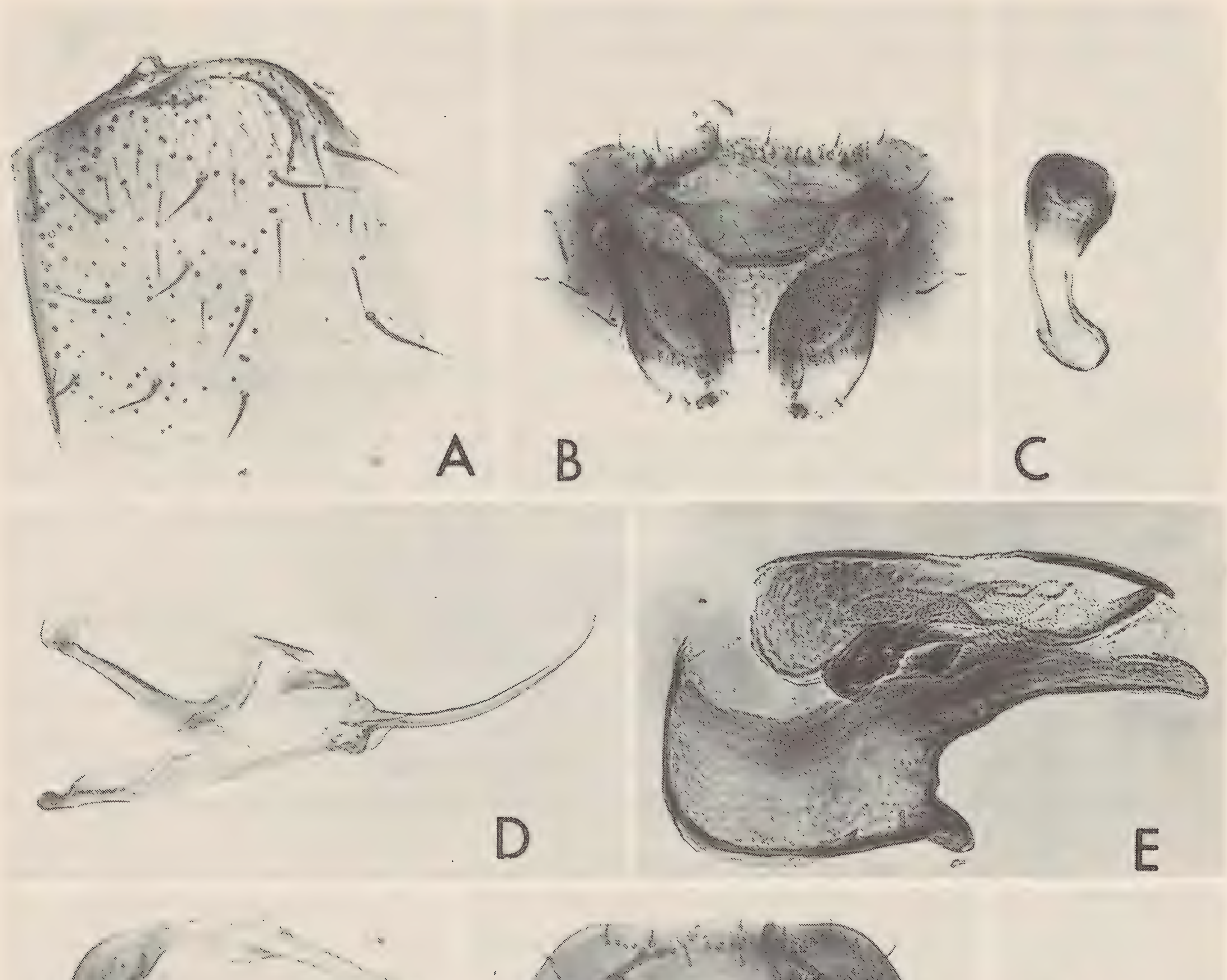
Figures 43, 70, 116

Most closely related to T. boultoni from which it is distinguished by the chaetotaxy of the pronotum and elytra and the shape of the female spermatheca.

Color reddish brown throughout with the antenna and legs somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with many light yellow setae scattered in among the darker and longer macrosetae. Macrochaetotaxy of pronotum as in Fig. 43; setae counts are 4,3,3,3. Macrochaetotaxy of elytra as in Fig. 70; setae counts are 2,3,3,3. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,6,6,6,6,2. There are many light yellow setae scattered in among the darker setae of the abdomen. The macrosetae on segment VII and VIII are lighter in color and thinner than the macrosetae on the other segments. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 12,10,10,10,10,12. The row on sternite VIII appear to be broken into 2 rows but these are not clearly defined. Spermatheca shaped as in Fig. 116. Male genitalia unknown.

Measurements. - Pronotum length, 0.50; elytra length, 0.35. Number measured, 1.

Holotype. - Female, 14598, Rhodesia, Mt. Selinda, 13 Apr. 1970, ex nest T-292, Coll. J. R. Clover, D. H. and A. C. Kistner, and R. Boulton, no. 1994. In the collection of D. H. Kistner.



Special plate II. -- *Termitusa bandai*: A, Right elytron; B, Pronotum; C, Spermatheca; D, Lateral lobe of male genitalia; E, Median lobe of male genitalia. *Thoracotermes carrissoensis*: F, Left elytron, G, Pronotum; H, Spermatheca; I, Median lobe of male genitalia; J, Lateral lobe of male genitalia. *Termitusodes lativentris*: K, Spermatheca.

Notes. - The host termites were determined to be Cubitermes truncatus (Holmgren) by R. M. C. Williams. Specimens of the host termites are in the collections of the British Museum (Natural History), London, and Kistner. The species is named after Rev. Eric Wasmann who did much of the pioneering work in the study of termitophiles.

Termitusa williamsi n. sp

Figures 44, 71, 93

Most closely related to T. superhirsutus from which it is distinquished by the chaetotaxy of the pronotum, elytra, and abdomen as well as the shape of the male genitalia and spermatheca.

Color reddish brown throughout with the legs and antennae somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with no thin yellow setae between the macrosetae. Macrochaetotaxy of pronotum as in Fig. 44; with the following setae counts, 5,3,1,3,3, counting from the median row. Macrochaetotaxy of elytra as shown in Fig. 71; setae counts are 2,3,3,3; the most anterior seta on the lateral border and the 1 most frequently broken off. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,4,4,4,4,2. Macrochaetae on tergites VII and VIII are shorter and thinner than the macrochaetae on the other tergites. No macrochaetae on the paratergites. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,8,6,6. Setae on sternite III are thinner and somewhat shorter than the setae on the rest of the sternites. Spermatheca shaped as in T. muneris (Fig. 106). Median lobe of male genitalia shaped as in Fig. 93.

Measurements. - Pronotum length, 0.38-0.40; elytra length, 0.28-0.30. Number measured, 10.

Holotype. - Male, no. 14613, Zambia, Mbala (Abercorn), 10 May 1970, ex nest T-316, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2086. In the collection of D. H. Kistner.

Paratypes. - 68, same data as holotype, (D. K.).

Notes. - The host species were determined to be Noditermes sp. by R. M. C. Williams. Specimens of the termites are in the British Museum (Natural History), London, and Kistner. The species is named after Mr. R. M. C. Williams who provided many of the host determinations in this paper and has done such a splendid revision of the African species of the genus Cubitermes.

Genus Thoracotusa new genus

Most closely related to Termitusa from which it is distinguished by the position of the emarginate mesocoxal acetabulae which only proceed about half way down to the posterior edge of the metasternum whereas in Termitusa and Termitusodes these proceed almost all the way to the posterior border of the metasternum (Fig. 136, 147, and 8).

Overall shape limuloid, as in Termitusa and Termitusodes. Head

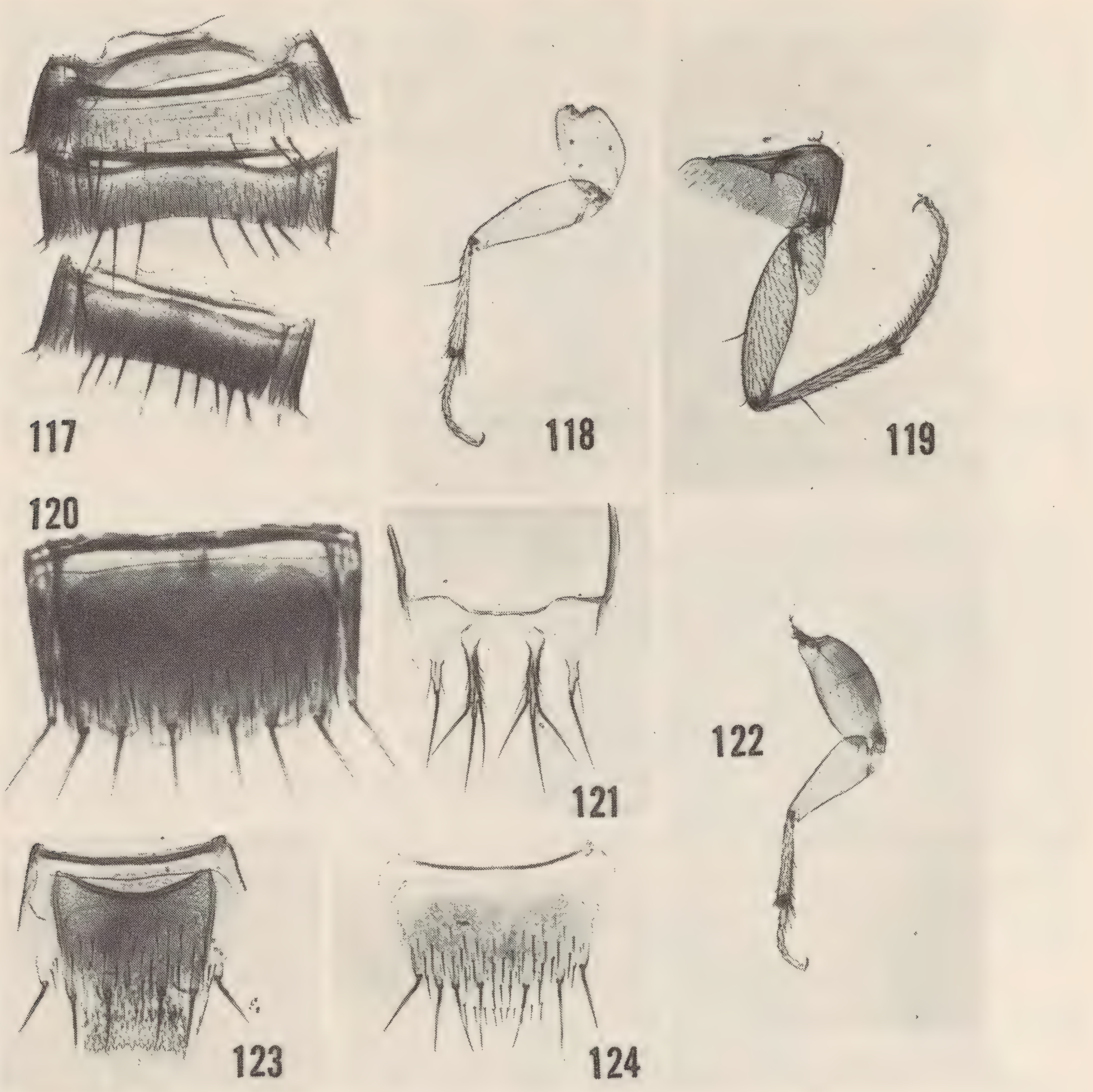


Fig. 117-124. -- *Thoracotusa* generic characters: *T. alzadae*: 117, abdominal segments II-V; 118, mesoleg; 120, abdominal segment VII; 121, abdominal segment IX of male; 122, proleg; 124, abdominal segment VIII. *T. kymrae*: 119, metaleg; 123, abdominal segment VIII.

capsule more or less oval in shape, hypognathus in life. Dorsal surface of head without further sculpture, without a neck, and without a distinct nuchal ridge. Eyes present, reniform, with many facets directed both anteriorly and laterally. Gula fairly wide, mentum fused to gula and extremely short. Submentum fairly long, shaped as in Fig. 129, not fused to the mentum. Maxillary acetabulae not distinctly margined. Antennae 11-segmented, shaped as in Fig. 125. Maxillae shaped as in Fig. 128, palpi 4-segmented; apical segment attached to most apical part of proceeding segment. Mandibles only slightly asymmetrical, shaped as in Fig. 126 and 127. Labium shaped as in Fig. 129, palpi 2-segmented with the 1st segment about twice as long as the 2nd segment. There is a thin seta on the tip of the 2nd segment which may represent an extremely regressed 3rd segment but it does not even show up on most slides. Ligula distinct. Labrum shaped as in Fig. 130, very thinly sclerotized where it attaches to the clypeus.

Pronotum shaped as in Fig. 142, with the sides reflexed ventrally as shown. Pronotum without further significant sculpture; chaetotaxy variable by species. Prosternum shaped as in Fig. 131, with relatively short articulating apodemes, acarinate between the legs but with emarginate articulating surfaces for the procoxa. Coxal cavities closed behind by the very thinly sclerotized strap-like mesothoracic peritremes which are embedded in membrane around the coxal cavity. Elytra shaped as in Fig. 143 and 144, note the ventral reflection of the hypomera, such that these clamp onto the lower side of the meso- and metasternum. Meso- and metanotum shaped as in Fig. 132. Meso- and metasternum shaped as in Fig. 135 and 136; mesothoracic coxal cavities widely separated with distinctly margined acetabulae. These margins only extend about half the length of the metasternum (Fig. 136). Wings present, of normal size, with the usual staphylinid venation. The species is able to fly in life. Pro-, meso-, and metalegs shaped as in Fig. 122, 118, and 119, respectively; tarsal formula 4-4-5.

Abdomen somewhat flattened dorsally, but otherwise subconical in form. Abdominal segment I fused to the metanotum (Fig. 132). Abdominal II represented by the tergite alone. Segments III-VI represented by a tergite, 2 pairs of paratergites, and 1 sternite each; the inner and outer paratergites approximately equal in width. Segment VII represented by a tergite and sternite and 1 long pair of paratergites; the inner paratergites are reduced to a small sclerite in each anterior corner. Segment VIII represented by the tergite and sternite only. Segment IX 4-valved, shaped as in Fig. 134. The male segment IX has extremely long anteriorly directed apodemes and it also has a small ventral sclerite probably representing a remnant of sternite IX. Male genitalia bulbous, variable by species. Spermatheca of female sclerotized, shape slightly variable by species.

Type species. - *Thoracotusa alzadae* n. sp.

KEY TO SPECIES OF THORACOTUSA

1. Abdominal tergites V-VI with 8 macrochaetae ..... *T. alzadae* (p. 41)
   Abdominal tergites V-VI with 4 macrochaetae 2
2. Elytra with 2 setae on lateral edge.................*T. kymrae* (p. 44)
   Elytra with 4 setae on lateral edge...........*T. carrissoensis* (p. 43)

Thoracotusa alzadae n. sp.

Figures 117, 118, 120-122, 124-135, 137-139, 142, 143

Distinguished from *T. kymrae* by the shape of the spermatheca, the chaetotaxy of the pronotum, and the chaetotaxy of the abdomen.

Color dark reddish brown throughout, with the head, pronotum, and elytra a little darker than the abdomen. Dorsal surface of the head, pronotum, elytra and abdomen smooth and shiny with a distinctive chaetotaxy. Chaetotaxy of the pronotum as shown in Fig. 142; counts are 4, 3, 3, 4 or 5 (rarely). In slide preparations, these setae show up very well even if they are broken off as the setae bases leave a small hole in the pronotum which

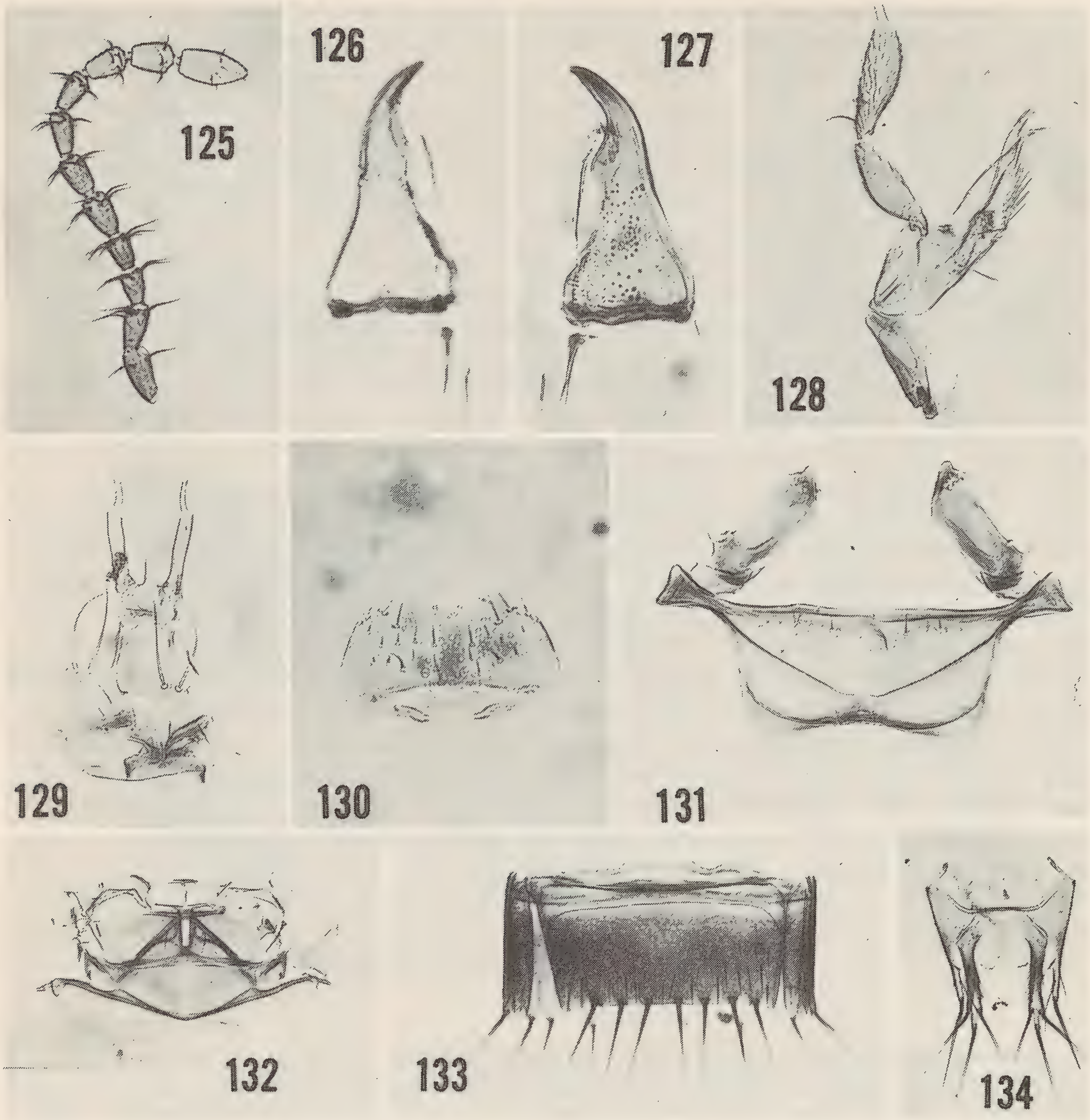


Fig. 125-134. -- *Thoracotusa* generic characters: *T. alzadae*: 125, antennae; 126, right mandible; 127, left mandible; 128, maxillae; 129, labium and submentum; 130, labrum; 131, prosternum; 132, meso-and metanotum with attached abdominal segment I; 133, abdominal segment VII; 134, abdominal segment IX of female.

is easily visible. Some of those in the photograph were broken off. They have been redrawn in from the study of other specimens. The specimen shown exhibits the unusual situation where there is an odd seta put in the wrong place on the right hand side of the pronotum. The left hand side of the pronotum shows the more usual chaetotaxy. Chaetotaxy of elytra as shown in Fig. 143; counts are 2,3,3,3. When these setae break off the holes are not as immediately apparent in slide preparation. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,6,8,8,8,4,0. The 2 on tergite II are extremely small and on the lateral corners. The 2 middle setae of tergite III are much shorter and smaller and thinner than the other 4 which are 2 on each side. The 4 on tergite VII are extremely small and thin. On tergite VIII while we have listed it as 0, it has many very fine, thin yellow setae on its posterior third. Paratergites without setae. There is always the odd specimen that has an odd seta out of place on the tergite. This seta is usually much thinner and smaller than the other setae which are given in the counts. Abdominal sternite III with 2 macrosetae at each lateral edge and with an apical row of 10 very short, thin black setae between them. Sternite IV with 10 macrosetae. Sternite V with 10 macrosetae. Sternite VI with 10 macrosetae, VII with 8, VIII with 8. Median and lateral lobes of male genitalia shaped as in Fig. 137 and 138. Spermatheca shaped as in Fig. 139.

Measurements. - Pronotum length, 0.51-0.54; elytra length, 0.35-0.38. Number measured, 10.

Holotype. - Male, no. 14536, Zambia, Mbala (Abercorn), 12 May 1970, ex nest T-320, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2099, (D. K.).

Paratypes. - Zambia, Mbala (Abercorn): 358, same data as holotype, (D. K.); 5, 15 May 1970, ex nest T-327, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2119, (D. K.); 9, 23 May 1970, ex nest T-342, Coll. J. R. Clover, D. H., A. C., A. H., and K. M. C. Kistner, no. 2195, (D. K.). Zaire: 2, Katanga, Tshila-Tembo, 20 Feb. 1949, Coll. N. Leleup, no. 1, (M. R. A. C., D. K.). Angola: 331, km 10, Estrada de Chingufo, nr. Dundo, 25 November 1972, ex nest T-472, Coll. D. H. and A. H. Kistner, and R. J. Swift, (M. D., D. K.); 3, Rio Mussanguege, nr. Calondo, 24 December 1972, ex nest T-503, Coll. D. H. Kistner, S. A. Peles, and R. J. Swift, (M. D., D. K.).

Notes. - The host termites from Zambia were identified as *Thoracotermes lusingensis* Harris by R. M. C. Williams, and are in the collection of the British Museum (Natural History), London, and the Kistner collection. Nest no. T-327 was a mixed colony containing *T. lusingensis*, *Cubitermes oblectatus* Harris and *Crenetermes* sp. However, since *T. alzadae* was the only species taken with pure colonies of *T. lusingensis* we do not regard the other termites as probable hosts. Host termites from Angola were determined to be *T. lusingensis* by A. de Barros Machado (M. D., B. M. N. H., and D. K.).

Thoracotusa carrissoensis n. sp.

Figures II F - I

Distinguished from *T. kymrae* by the chaetotaxy of the pronotum, the chaetotaxy of the elytra, and the shape of the spermatheca. When males are known of *T. kymrae* there will undoubtedly be additional characters there.

Color dark reddish brown throughout, approaching black. Dorsal surface of the head, pronotum, elytra, and abdomen smooth and shiny with no significant microsculpture. Pronotum with chaetotaxy as shown in Fig. II G; counts are 4, 3, 1, 3, 3. Elytra with chaetotaxy as shown in Fig. II F; counts are 1, 2, 3, 4. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 2, 4, 4, 4, 4, 2. The 2 setae on the abdominal tergite II are at the lateral borders and are very small. The 2 setae on abdominal tergite III are at the lateral borders. The 4 setae on tergite VII are very small and thin; and all of the many setae on tergite VIII are thin, 1 on each side stands out as darker and these might be macrosetae. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8, 8, 8, 6, 6, 6. Spermatheca shaped as in Fig. II H. Median lobe of male genitalia shaped as in Fig. II I. Lateral lobes of male genitalia shaped as in Fig. II J.

Measurements. - Pronotum length, 0.48-0.52; elytra length, 0.35-0.38. Number measured, 10.

Holotype. - Male, number 14999, Angola, Parc Dr. Carrisso, nr. Dundo, 5 November 1972, ex nest T-442, Coll. D. H. Kistner, and R. J. Swift, No. 2545. In the collection of the Museo do Dundo.

Paratypes. - Angola, Parc Dr. Carrisso, nr. Dundo: 16, same data as holotype, (D. K.); 6, 8 November 1972, ex nest T-449, Coll. D. H. Kistner, and R. J. Swift, No. 2569, (M. D., D. K.); 8, 4 November 1972, ex nest T-440, Coll. D. H. and A. H. Kistner, and R. J. Swift, No. 2537, (D. K., M. D.); 23, 4 November 1972, ex nest T-441, Coll. D. H. and A. H. Kistner and R. J. Swift, No. 2539, (M. D., D. K.); 2, 8 November 1972, ex nest T-448, Coll. D. H. Kistner and R. J. Swift, No. 2568, (D. K.).

Notes. - All colonies of the host termites were determined to be Thoracotermes macrothorax (Sjoestedt) by A. de Barros Machado, specimens of which are in the collection of Museo do Dundo and the collection of the author. These specimens of T. macrothorax have shorter heads than T. macrothorax from Liberia.

Thoracotusa kymrae n. sp.

Figure 119, 123, 136, 140, 141, 144

Distinguished from T. alzadae by the chaetotaxy of the pronotum, the chaetotaxy of the abdomen, and the shape of the spermatheca.

Color dark reddish brown throughout, approaching black. Dorsal surface of the head, pronotum, elytra, and abdomen smooth and shiny with no significant microsculpture. Pronotum with chaetotaxy as shown in Fig. 141; counts are 4,3,3,3. Elytra with chaetotaxy as shown in Fig. 143; counts are 1,2,3,1,2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2,4,4, 4,4,4,4. The 2 setae on abdominal tergite II are at the lateral borders and are very small. The 2 center setae on abdominal tergite III are small. The 4 setae on tergite VII are very small and thin and all of the many setae on tergite VIII are thin, 1 on each side sort of stand out as darker and might be macrosetae. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: 8,8,8,6,6,6. Spermatheca shaped as in Fig. 140. Male unknown.

Measurements. - Pronotum length, 0.52-0.55; elytra length, 0.38-0.41. Number Measured, 4.

Holotype. - Female, no. 14537, Zaire, Yangambi, 5 July 1960, ex nest, Coll. D. H. and A. C. Kistner and R. Banfill, no. 304. In the collection of D. H. Kistner.

Paratypes. - Zaire, Yangambi: 1 female, same data as holotype, (D. K.); 2 females, 6 July 1960, ex nest, Coll. D. H. and A. C. Kistner, and R. Banfill, no. 312, (D. K.).

Notes. - Both colonies of host termites were determined to be Thoracotermes macrothorax (Sjoestedt) by Kumar Krishna, specimens of which

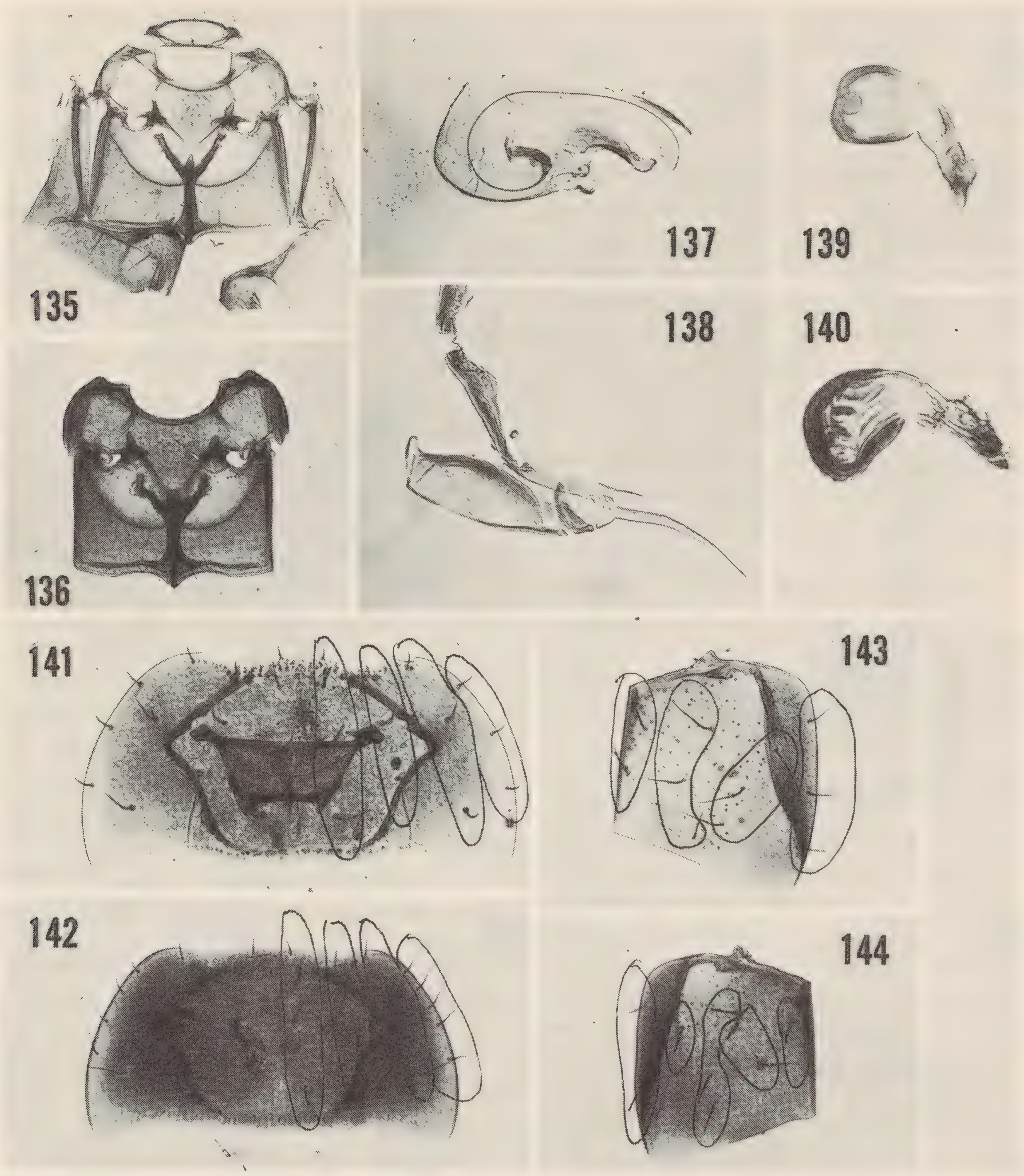


Fig. 135-144. -- *Thoracotusa alzadae*: 135, meso- and metasternum; 137, median lobe of male genitalia; 138, lateral lobe of male genitalia; 139, spermatheca; 142, pronotum; 143, elytron. *T. kymrae*: 136, meso- and metasternum; 140, spermatheca; 141, pronotum; 144, elytron.

are in the collection of the American Museum of Natural History, New York.

Genus *Termitusodes* Pasteels

Termitusodes Pasteels 1967: 62, type species, *T. lativentris* Seevers by original designation.

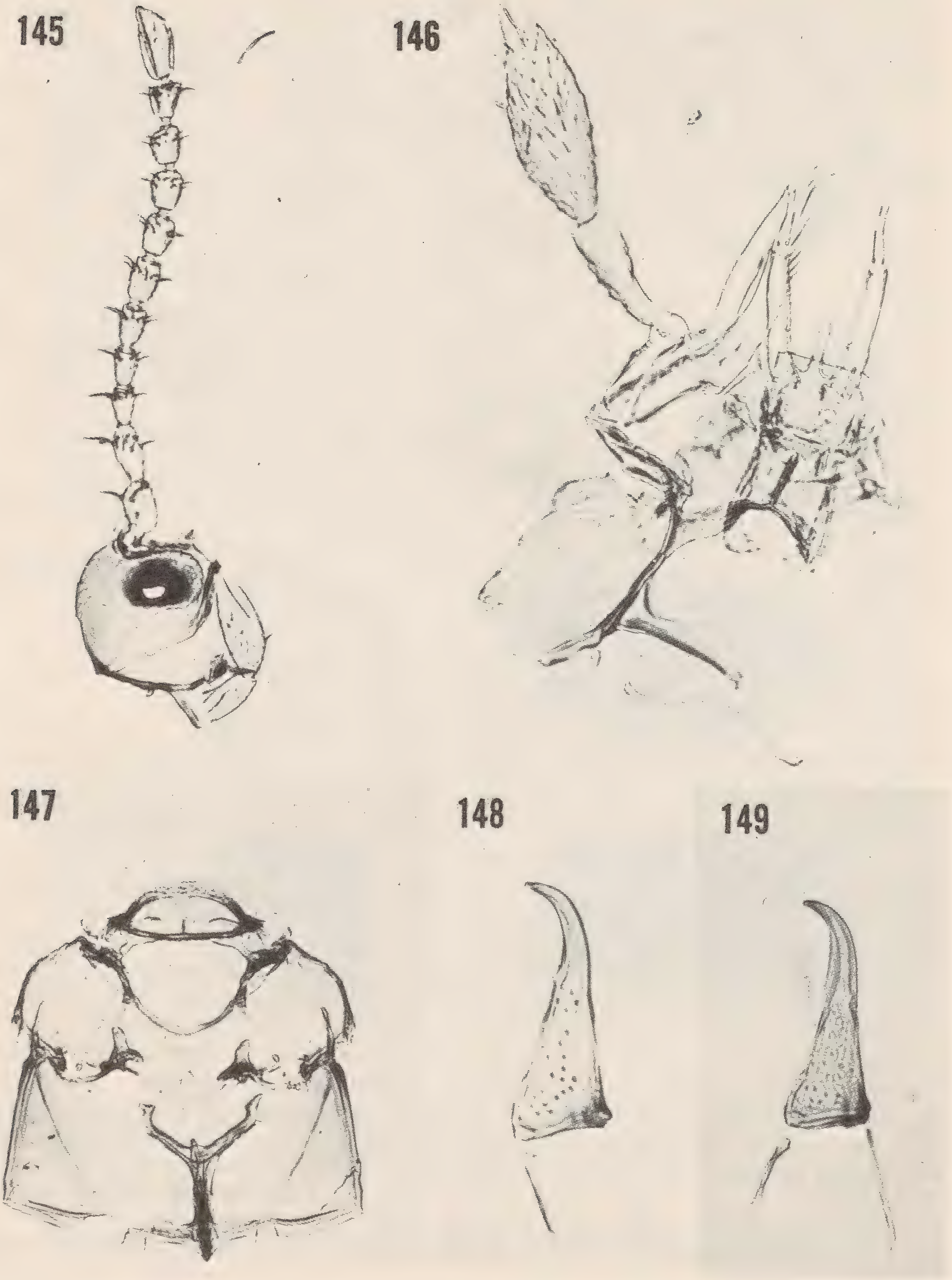


Fig. 145-149. -- *Termitusodes* generic characters: *T. lativentris*: 145, antennae with attached part of head capsule; 146, labium and maxillae; 147, meso- and metasternum; 148, right mandible, 149, left mandible.

Most closely related to Termitusa from which it is distinguished by the shape of the abdomen and the shape of the labrum. There are other subtle differences between the segment IX complex wherein there are fewer setae in Termitusodes but these are not characters we usually associate with the generic ranking.

Overall shape as in Termitusa. Head capsule oval in shape. Dorsal surface of the head without further sculpture, the head is without a distinct neck and without a nuchal ridge. Eyes present, reniform, with many facets directed both anteriorly and laterally. Ventral surface of the head without unusual sculpture. Gula with sides relatively straight, mentum extremely short and fused to the gula. Mentum almost completely membranous but distinct from the submentum. Antennae shaped as in Fig. 145, 11-segmented, with the terminal segment asymmetrical. Labrum elongate, shaped as in Fig. 153. Mandibles slightly asymmetrical, very slender, shaped as in Fig. 148 and 149. Maxillae shaped as in Fig. 146 with elongate lacinia and galea; palpi 4-segmented, terminal segment immobilized to the side of the 3rd segment. Maxillary acetabulae not distinctly margined. Labium shaped as in Fig. 146; palpi 2-segmented; ligula distinct.

Pronotum shaped as in Fig. 163 and 165. Chaetotaxy variable by species. Extent of the ventral reflection of all borders of the pronotum about the same in all genera. Prosternum fairly large, shaped as in Fig. 165 with relatively short anterolateral articulation processes. Prosternum evenly rounded between the legs. Prothoracic coxal cavities closed behind by membrane in which are located the very thin straplike mesothoracic peritremes. Elytra shaped as in Fig. 159 and 160, chaetotaxy variable by species. Note that the lateral borders are deflected ventrally but are not folded back on the ventral side as in Thoracotusa. Meso- and metanotum shaped as in Fig. 150. Note the extreme reduction of abdominal tergite I which is fused to the metanotum. Meso- and metasternum shaped as in Fig. 147. Mesothoracic coxae widely separated with an acarinate, evenly rounded mesosternal process produced between them. Mesocoxal cavities distinctly marginate with the posterior margin proceeding all the way to the posterior border of the metanotum. Wings present, of normal size and with the usual staphylinid venation. Pro-, meso-, and metalegs shaped as in Fig. 155, 157, and 156 respectively; tarsal formula 4-4-5.

Abdomen subconical in form (Fig. 152), tapering from anterior to posterior, such that the segment VII is 18.2% less wide than segment III. This differs from Termitusa and Thoracotusa in that their abdomens taper 27.2% from segment III to segment VII. Abdominal segment I fused to the metanotum. Abdominal segment II represented by the tergite alone. Abdominal segments III-VI represented by a tergite, 2 pairs of paratergites, and a sternite each. Abdominal segment VII represented by a tergite and sternite, 1 pair of paratergites which are full length and the inner paratergites which are reduced to a small tab at the upper inner corner of each outer paratergite. Segment VIII represented by the tergite and sternite only. The paratergites of all segments are almost completely fused together. The line of fusion shows on the paratergites on segments 3 and 4 but very faintly. The other segments show no line of fusion whatsoever. One opening to the tergal gland is present on each side of the midline on the anterior margin of tergite VII. Segment IX 4-valved (shaped as in Fig. 151) with the male having extremely long anterior apodemes and a very thin ventral piece which probably represents sternite IX. Male genitalia bulbous, shape variable by species.

Female spermatheca sclerotized, presumed variable by species. Lateral lobe of male genitalia shaped as in Fig. 161 and 162.

Type species. - *Termitusodes lativentris* (Seevers)

KEY TO SPECIES OF TERMITUSODES

1. Tergite III with 4 macrosetae. 2
Tergite III with 6 macrosetae; pronotum with many secondary setae between the macrosetae. . . . . *T. leleupi* (p. 52)
2. (1) Tergite IV with 4 macrosetae. 3
Tergite IV with 8 macrosetae. . . . . *T. summa* (p. 52)
3. (2) Pronotum with 4 rows of macrosetae; with 3 macrosetae in the middle rows. . . . . *T. congolesis* (p. 48)
Pronotum with 4 rows of macrosetae; with 4 macrosetae in the middle rows. 4
4. (3) Paratergites narrow, paratergite IV 1/10 the width of the corresponding tergite (ex Pasteels 1967). . . . . *T. media* (p. 52)
Paratergite wider, paratergite IV 1/12 the width of the corresponding length. . . . . *T. lativentris* (p. 51)

Termitusodes congolensis n. sp.

Figures 160, 162, 165, 166

Distinguished from all other species of *Termitusodes* by the chaetotaxy of the pronotum, chaetotaxy of the abdomen, and the shape of the male genitalia.

Color light reddish brown throughout with the head and pronotum and elytra a little darker than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with chaetotaxy as follows. Pronotum with chaetae as shown in Fig. 165; counts are 3, 2, 1, 3, from the middle to the outside. Macrochaetotaxy of elytra as shown in Fig. 160, counts are 2, 3, 2. Macrochaetotaxy of abdominal tergites II-VIII: 0, 4, 4, 4, 4, 4, 2. All of the setae are extremely short though they are longer on tergite III than all the rest. Paratergites without setae. Sternites with only apical rows of 6 setae each; 2 near each lateral border and 2 in the middle of sternites III-VI and 6 evenly spaced on the posterior border of sternites VII and VIII. Median lobe of male genitalia shaped as in Fig. 166. Lateral lobe of male genitalia shaped as in Fig. 162. Female unknown.

Measurements. - Pronotum length, 0.40; elytra length, 0.36. Number measured, 1.

Holotype. - Male, no. 14307, partly on slides, Zaire, Yangambi, 4 July 1960, Berlese: nest 297, Coll. J. Decelle, no. 298. In the collection of D. H. Kistner

Notes. - The host termites were determined to be *Cubitermes fungifaber* (Sjoestedt) by Kumar Krishna. Specimens are in the collection of the American Museum of Natural History, N. Y.

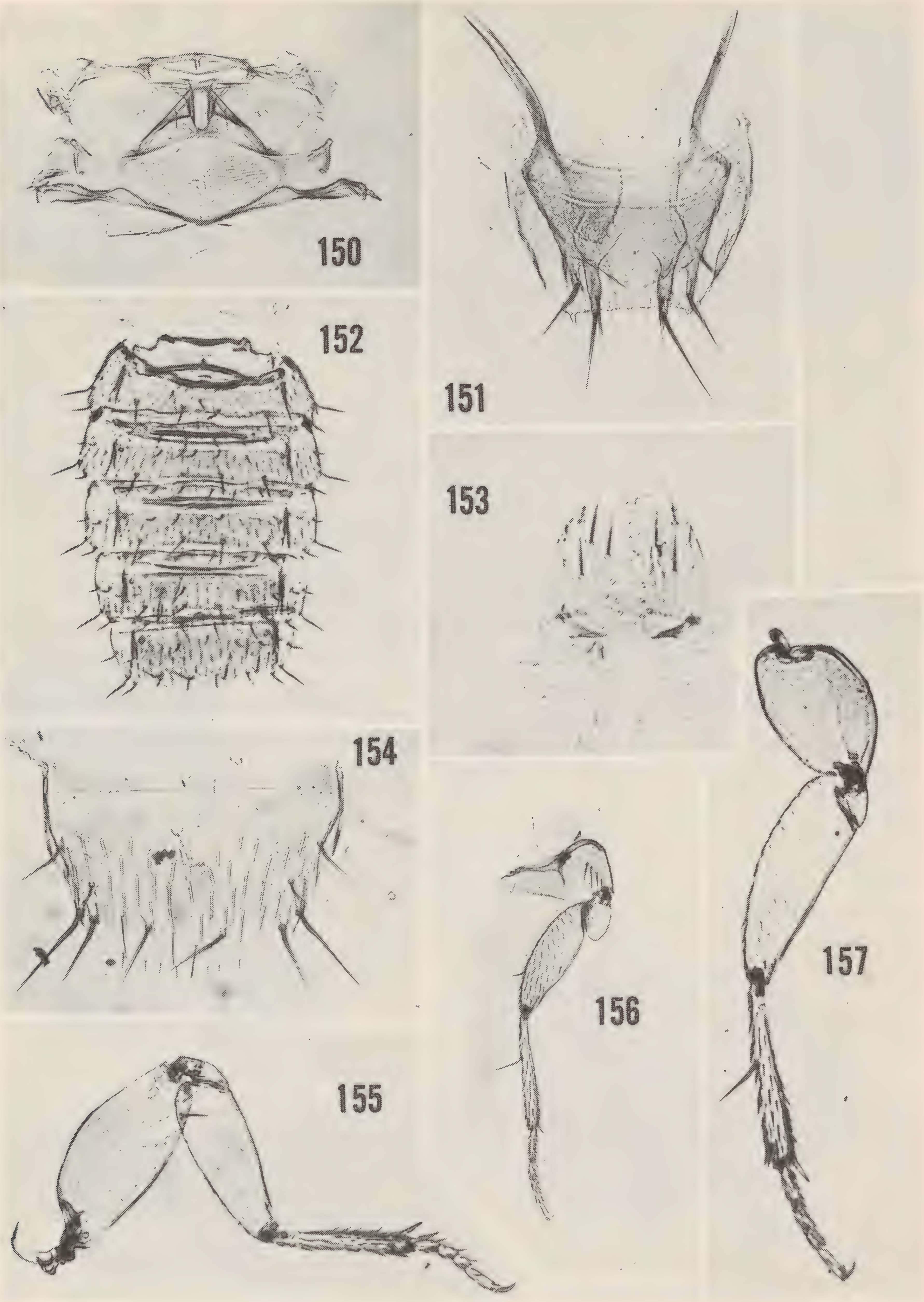


Fig. 150-157. -- *Termitusodes* generic characters: *T. lativentris*: 150, meso- and metanotum with attached abdominal segment I; 151, abdominal segments VIII and IX of male; 152, abdominal segments II-VII; 153, labrum; 154, abdominal sternites VIII; 155, proleg; 156, metaleg; 157, mesoleg.

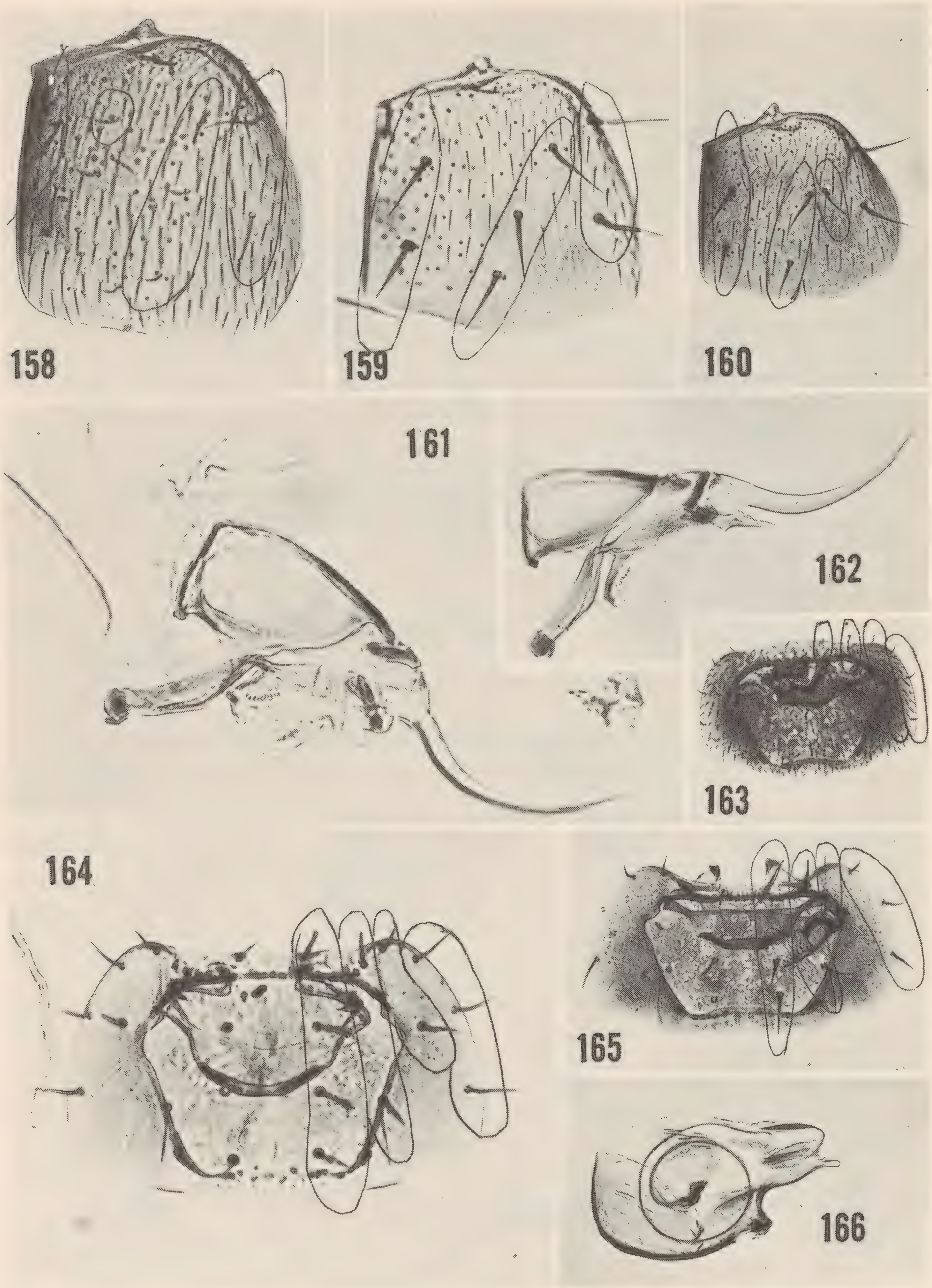


Fig. 158-166. -- Termitusodes leleupi: 158, elytron; 163, pronotum. T. lativentris: 159, elytron; 161, lateral lobe of male genitalia; 164, pronotum. T. congolensis: 160, elytron; 162, lateral lobe of male genitalia; 165, pronotum; 166, median lobe of male genitalia.

Termitusodes lativentris (Seevers)

Figures 145-157, 159, 161, 164, 167, II K

Termitusa lativentris Seevers 1957: 213, Fig. 32, Field Museum of Natural History, Chicago, (French Congo, Brazzaville, 1 Apr. 1948, Coll. A. E. Emerson with Noditermes cristifrons (Wasmann)).

Termitusodes lativentris, Pasteels 1967: 62, (Gabon, nr. Makokou, with Pericapritermes magnificus Silvestri).

Distinguished from all other species by the chaetotaxy of the pronotum, the abdomen, and the shape of the male genitalia.

Color reddish brown throughout with the abdomen and legs somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with chaetotaxy which is species specific. Pronotum with chaetotaxy as shown in Fig. 164; counts are 4, 2, 2, and 3 counting from the middle of the pronotum outward, without short yellow setae interspersed. Chaetotaxy of elytra as shown in Fig. 159, counts are 2, 3, 2. Elytra also with a number of smaller yellow setae interspersed between these. Macrochaetotaxy of abdominal tergites II-VIII as follows: 0, 4, 4, 4, 4, 4, 2. Tergite VIII also with many long yellow setae covering the apical third. Paratergites without macrosetae. Sternite III with very few scattered setae other than the apical row, sternites IV, V, VI, and VII with an apical row and another row about the middle of the sternite with a variable number of setae. Sternite VIII with an apical row and 2 anteapical setae near each lateral margin. Median lobe of male genitalia shaped as in Fig. 167. Lateral lobe of male genitalia shaped as in Fig. 161. Spermatheca shaped as in Fig. II K.

Measurements. - Pronotum length, 0.49-0.50; elytra length, 0.29-0.30. Number measured, 2.

Material examined. - The type series, Congo Republic, Brazzaville, 1 Aprl 1948, Coll. Alfred E. Emerson, (F. M. N. H., D. K.). Angola: 1, Parc Dr. Carrisso, nr. Dundo, 7 November 1972, ex nest T-445, Coll. D. H. Kistner, and R. J. Swift, No. 2559, (D. K.); 4, Mussangue Forest, nr. Dundo, 16 November 1972, ex nest T-461, Coll. D. H. Kistner, and R. J. Swift, No. 2603, (M. D., D. K.).

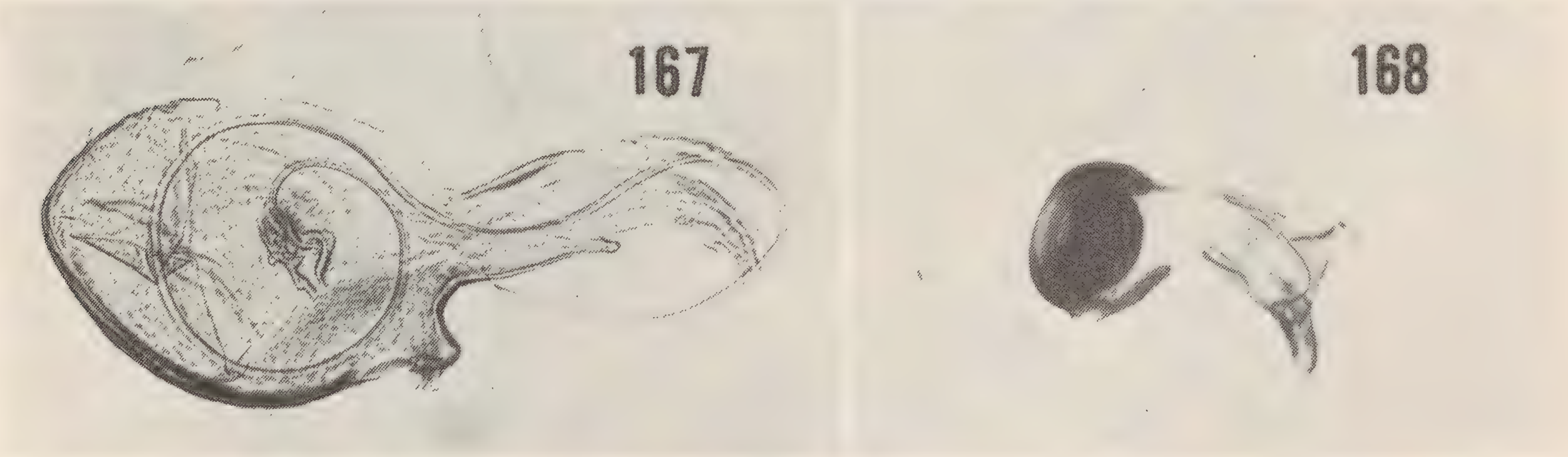


Fig. 167-168. -- Termitusodes lativentris: 167, median lobe of a male genitalia. T. leleupi: 168, spermatheca.

Notes. - The original type series of the species was taken from a mixed colony containing termites determined as Noditermes cristifrons (Wasmann) and Pericapritermes magnificus (Silvestri) according to Alfred Emerson (personal communication). Specimens of the host termites are in the Emerson collection of the American Museum of Natural History, New York. The host termites from Angola were determined to be P. magnificus (Silvestri) by Kistner, specimens of which are in the collections of the British Museum (Natural History), London, and Kistner. The P. magnificus were in mounds built by Cubitermes fungifaber (also determined by Kistner); see behavior section for experiments with the hosts.

Termitusodes leleupi n. sp.

Figures 158, 163, 168

Distinguished from all other species by the chaetotaxy of the pronotum and abdomen and the shape of the spermatheca.

Color reddish brown throughout with the abdomen and legs somewhat lighter than the rest of the body. Dorsal surface of the head, pronotum, and elytra smooth and shiny with a thick vestiture of secondary setae between the rather short macrosetae. Macrochaetotaxy of pronotum as shown in Fig. 163; setae count is 1, 1, 2, 3. Macrochaetotaxy of elytra as in Fig. 158; setae count is 2, 1, 2, 2. Macrochaetotaxy of abdominal tergites II-VIII as follows: 2, 6, 6, 6, 6, 4, 2. Tergite VIII also with a number of long yellow setae covering the apical third. Paratergites without macrosetae. Macrochaetotaxy of abdominal sternites III-VIII as follows: There seems to be an apical row of a variable number of thin setae which are scarcely distinguishable from the secondary setae which cover the posterior half of each sternite. Spermatheca shaped as in Fig. 168. Male unknown.

Measurements. - Pronotum length, 0.42; elytra length, 0.35. Number measured, 1.

Holotype. - Female, no. 14611, Zaire, Katanga, Massif des Kundulungu, 1 Jan. 1949, Coll. N. Leleup, ex small termite nest. In the collection of the Musée Royal de l'Afrique Centrale, Tervuren.

Notes. - The identity of the host termites is unknown.

Insertae sedis

The genus contains 2 other species; Termitusodes media Pasteels and T. summa Pasteels. These 2 species are adequately described by Pasteels (1967) and are only included in the key to species herein.

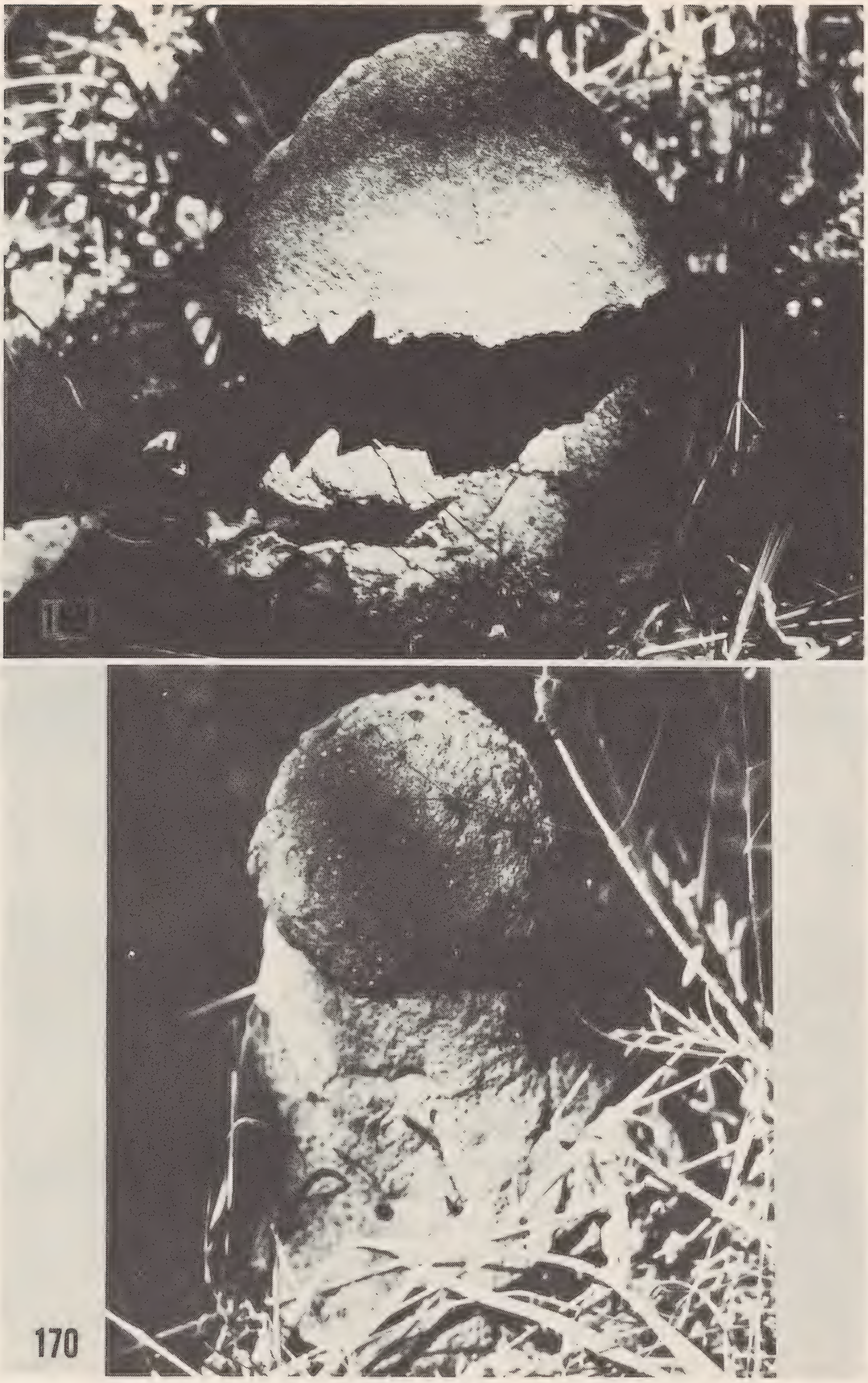


Fig. 169-170.--Cubitermes muneris nests: 169, typical undisturbed nest; 170, regenerated nest, 2 weeks after we chopped the top off of it.

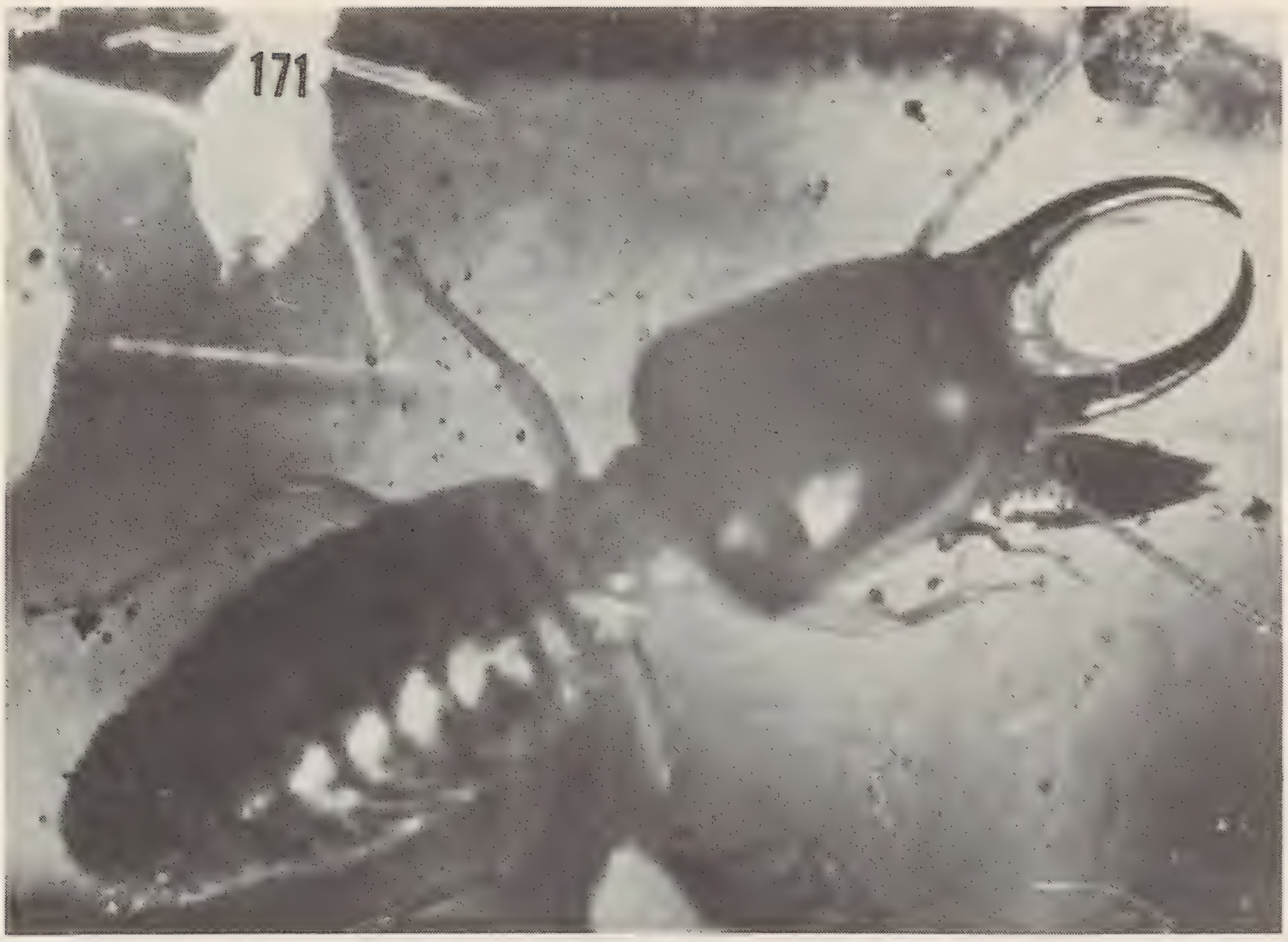
BEHAVIOR AND GLANDS

The behavior of Termitusa pasteelsi was first described by Pasteels (1969, p. 5), who stated that while the species was very common in the nests of Cubitermes heghi, it did not have a very close relationship with their hosts. Very quick and agile, they clamber under and between the termites who often ignor them. They often carry their abdomen in a vertical position. While the termites sometimes move their mouthparts on the termitophile and vice versa, these interactions do not last as long as they do in the Termitogastrina. Pasteels saw exchanges of food between Termitusa and their hosts which had the character of robbery as the termites were disturbed and made attempts to disengage the termitophile and even to chase it. Termitusa was observed taking food from one termite in which case it went through the begging behavior with its legs. In another exchange, the Termitusa took food as it was passed from 1 worker to another.

My observations parallel those of Pasteels. We made detailed studies of Termitusa atlanticus, T. boultoni, T. muneris, and T. viegasi. T. muneris is found in the conspicuous termite nests of Cubitermes muneris, 2 varieties of which are shown in Fig. 170 and 171. Many of the species can be quite common in the nests and population counts of 60-80 are not uncommon. We, too have observed that Termitusa frequently walks with its abdomen in a vertical position (Fig. 173) and that they can walk over, under (Fig. 172), and beside of (Fig. 174) the termite soldiers and workers without any interference whatsoever from soldiers, workers, or nymphs. These beetles would frequently walk up to the side of a termite (Fig. 175) and walk along side of it for awhile, rubbing its abdomen against the thorax or abdomen of the termite beside it. When it raised the abdomen while walking alongside the termite, the termite frequently responded by shifting its head toward the abdomen as if to palpate it but it did not linger there as if to do some serious licking. We, too, observed very quick food grabbing by the termitophile.

In spite of the apparent lack of antagonism between the termites and Termitusa, the Termitusa did not thrive well in close contact with the termites. Our observations were made in Petri dishes and we normally crowd many termitophiles and termites together to force more interactions. The termites lived well in these chambers and we could keep small termite samples alive for a week or more this way. However, the Termitusa seldom lasted more than 1 or 2 days. I do not know how to interpret this but I want to point out that well-integrated forms such as Termitomimus usually live as long as the termites do under identical conditions.

Thoracotusa are even less integrated in the Thoracotermes nests than Termitusa are in the Cubitermes nests. Thoracotusa alzadae carries its abdomen down further on its back than Termitusa does. They stay away from the active areas of termite activity and hide themselves in small folds of the filter paper where they could get at the termites, but the termites were unlikely to locate them. When a termite got close to Thoracotusa, it presented the very tip of its abdomen. There would then be a momentary stop of the termites' action which would allow the Thoracotusa to get away. There were no movements of the termite's mouthparts to indicate that something was exchanged. Thoracotusa also steals food from the termites. The behavior of T. kymrae and T. carrissoensis was the same as that observed for T. alzadae.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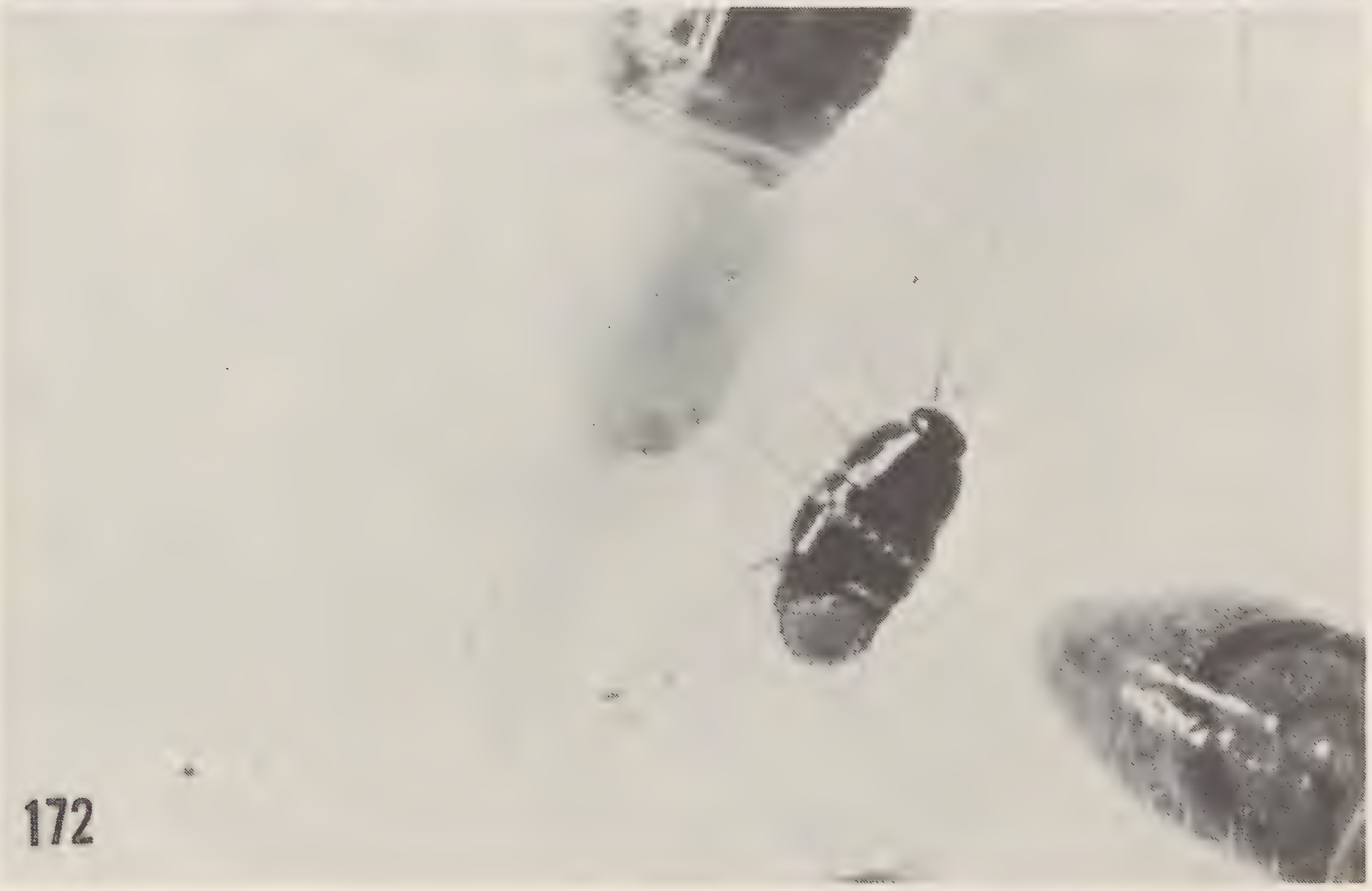
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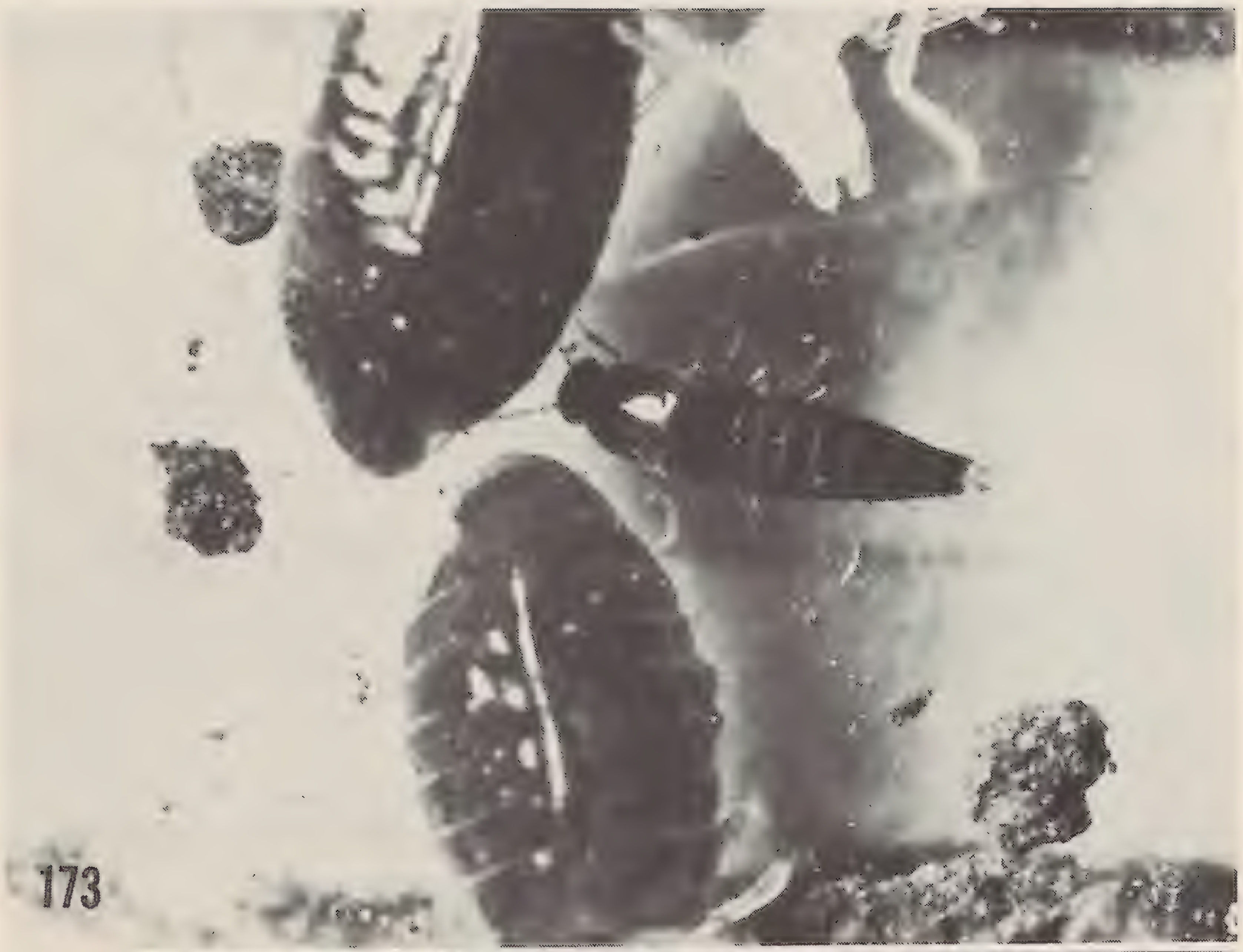
Fig. 171-172.--Termitusa muneris: 171, crawling beneath a soldier of Cubitermes muneris; 172, walking with its abdomen nearly vertical while being palpated by a worker termite.



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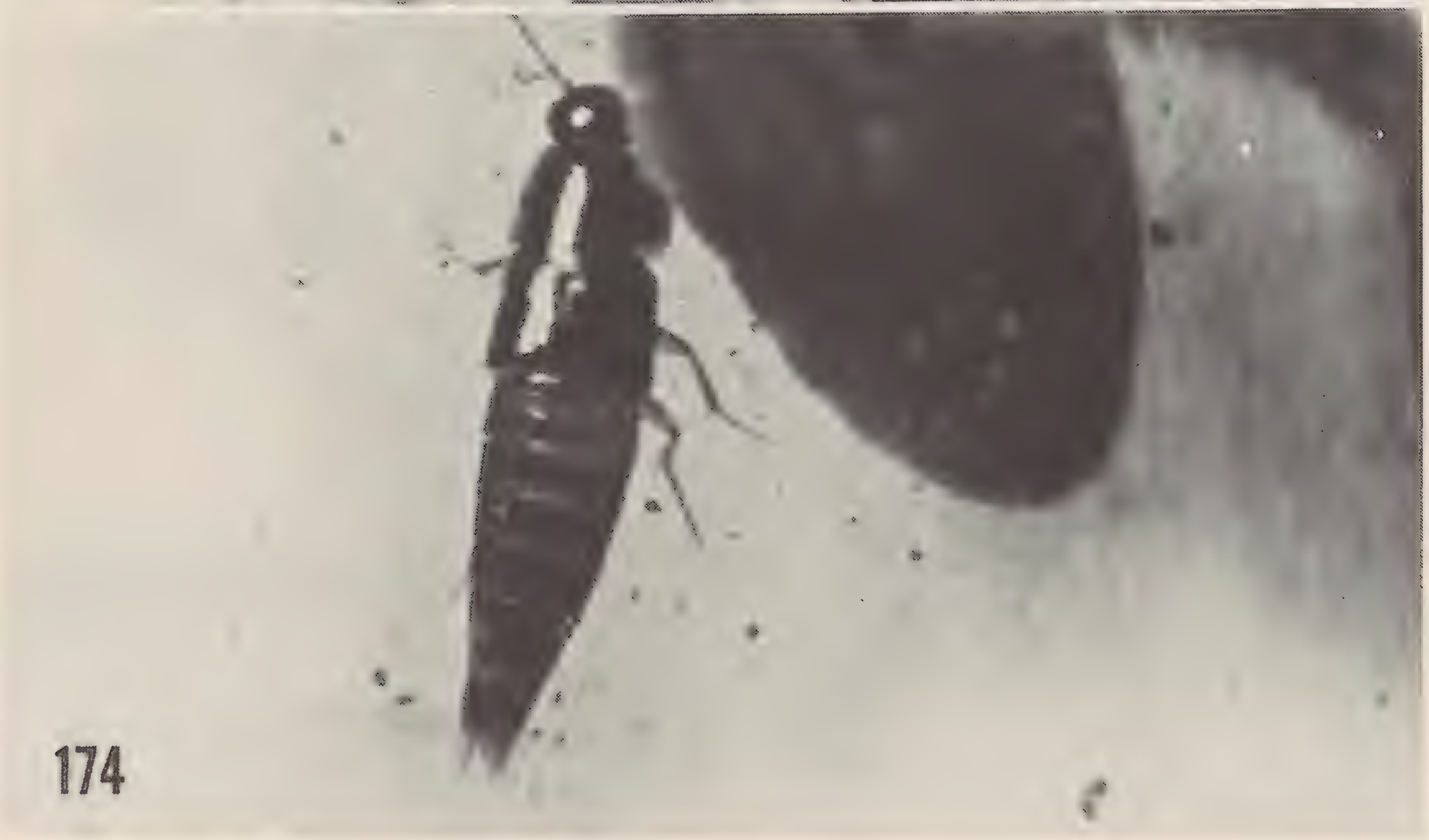

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Fig. 173-174.--*Termitusa muneris*: 173, walking to the side of a worker; 174, walking alongside of the worker termite while rubbing its head and pronotum against the abdomen.

The specimens of Termitusodes lativentris that we studied in Angola were found in mixed colonies of Cubitermes fungifaber, Pericapritermes magnificus, and another species of a still undetermined Termitid genus. While these termites have separate galleries in nature, these were always mixed when we dissected the nests. We then placed the Termitusodes in company with each termite successively. Cubitermes and the unidentified genus were antagonistic and attempted to bite the Termitusodes, while Pericapritermes never snapped their mandibles at them nor attempted to bite them. This supports the contention of Pasteels that Pericapritermes is the true host of the species.

Our studies of sections of Termitusa muneris, T. boultoni, and Thoracotusa alzadae showed no important differences from the findings of Pasteels (1969). Like him, we found no unique glands. We found reduced tergal gland reservoirs which are less reduced in Thoracotusa where the measurements were: length, 105-110 μ, width, 150-160 μ, and depth of 72-86 μ. The postpleural glands of abdominal segment VIII are reduced in both genera. We found type 1 cells scarcely distributed at the articulations of legs, antennae, paratergites, and anterior edges of tergites and sternites but their position from specimen to specimen is not constant. Maxillary glands are present in both genera.

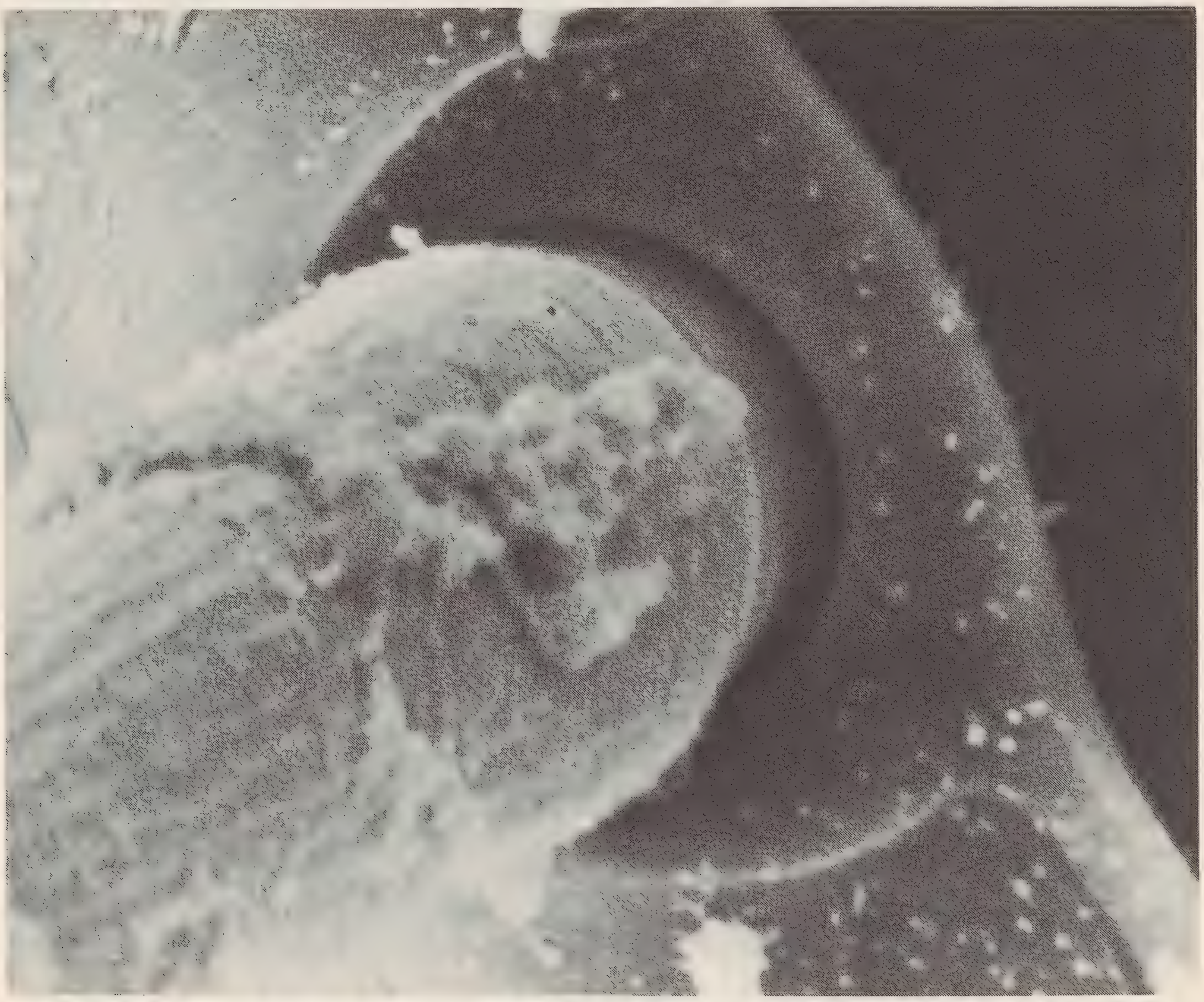

Fig. 175.--Termitusa cloveri, seta base on the posterior edge of abdominal tergite VI. X 2400.

ULTRASTRUCTURE OF SETAE

The macrosetae given in the counts on the abdomens sometimes have very large sockets. To see the precise structure of these sockets and to see if there were any glandular pores associated with them we placed a specimen of Termitusa cloveri and Thoracotusa alzadae under the scanning electron microscope. Fig. 176 shows the socket from 1 angle while Fig. 177 shows a similar setae from the reverse angle. No pores are apparent.

A characteristic which has not been used before but will probably be of value at the generic level is the fringe of microtrichia along the posterior edge of tergite VII. These are shown in Fig. 178, 179, and 180. They are interesting microtrichia in that they apparently have no sockets and look like outgrowths of the edge itself. No other tergite has these nor does the sternite of VII (Fig. 181). They are found in all genera of Aleocharinae which we have examined and differ in the number of rows and in the form the microtrichia take. They are barely visible in normal cleared slide preparations after you know they should be there. They are probably to be found in many subfamilies of Staphylinidae as Hammond (1972, Fig. 1) recently showed their presence on Conosoma phloxum Olliff in addition to the peg-like setae of the males. They have also been shown to be present in Microbledius and Bledius by Herman (1972).

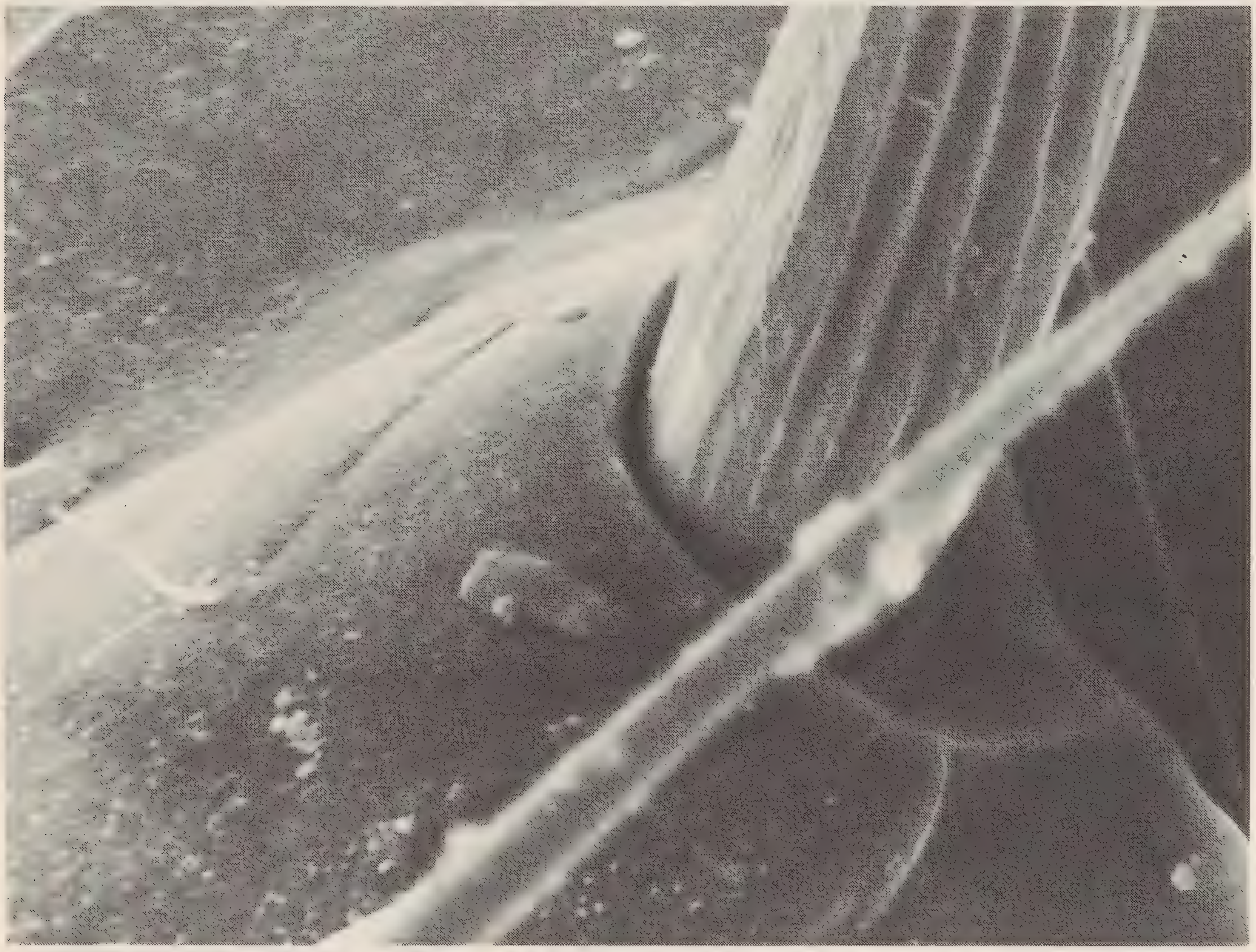

Fig. 176. --Thoracotusa alzadae, seta base on the posterior edge of abdominal tergite IV. X 2400.

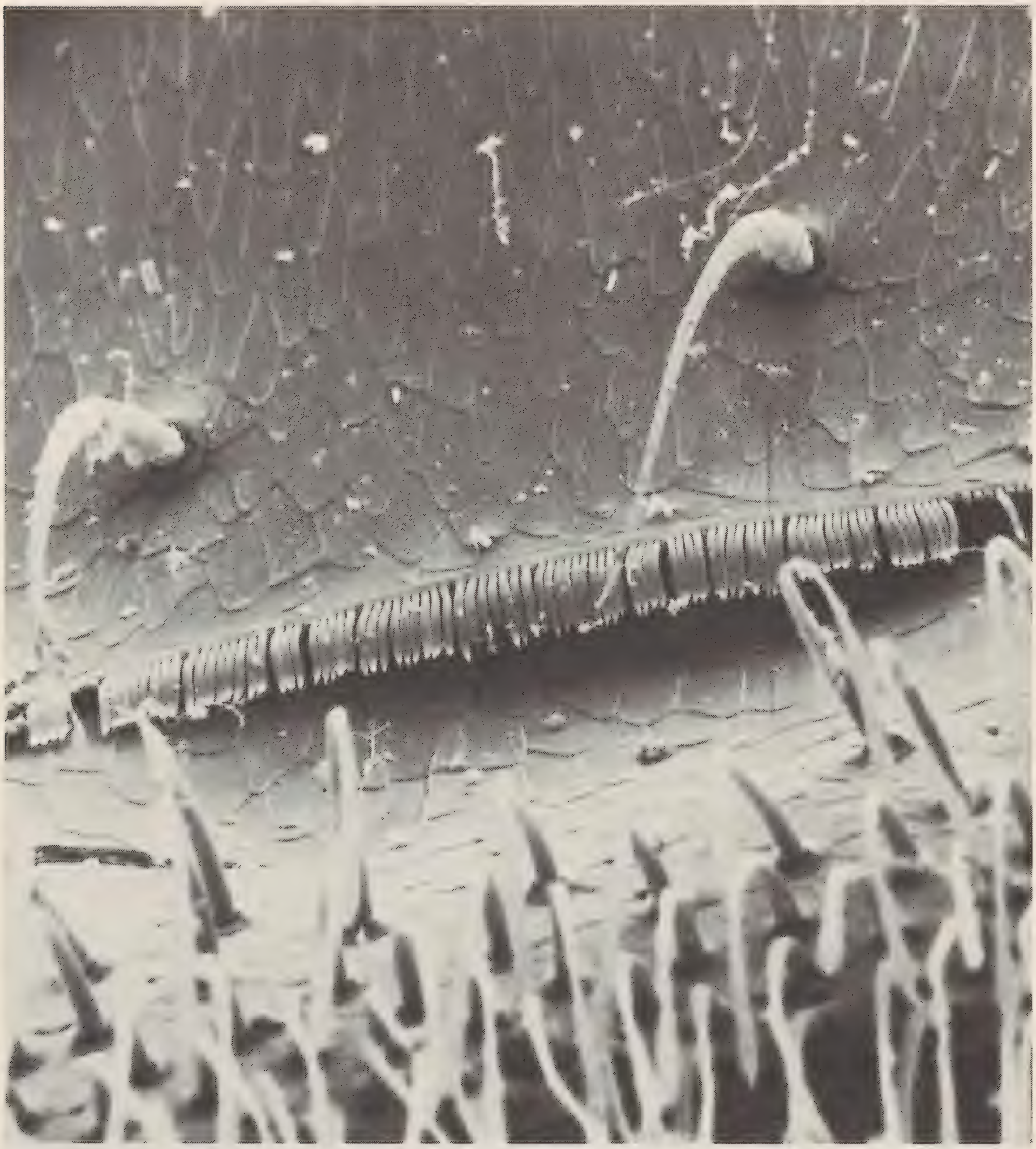

Fig. 177.--Termitusa cloveri, junction of abdominal tergites VII and VIII showing fringing microtrichia on the posterior edge of tergite VII. X 600.

INTERPRETATION

The behavior and gland distribution both support the interpretation that the Termitusina are termitophiles which are adapted to the lives of the termites but are not integrated into the social life of the termites. They make their living by stealing food from the termites in the adult stage. Where the larvae are reared is still unknown. All species are host specific, so far as we know, so it would appear that the colonial life of each species is something to which the beetles must somehow adapt in an evolutionary sense. Far more likely is that the larvae, presently unknown, are even more strikingly dependent upon a given species of termite.

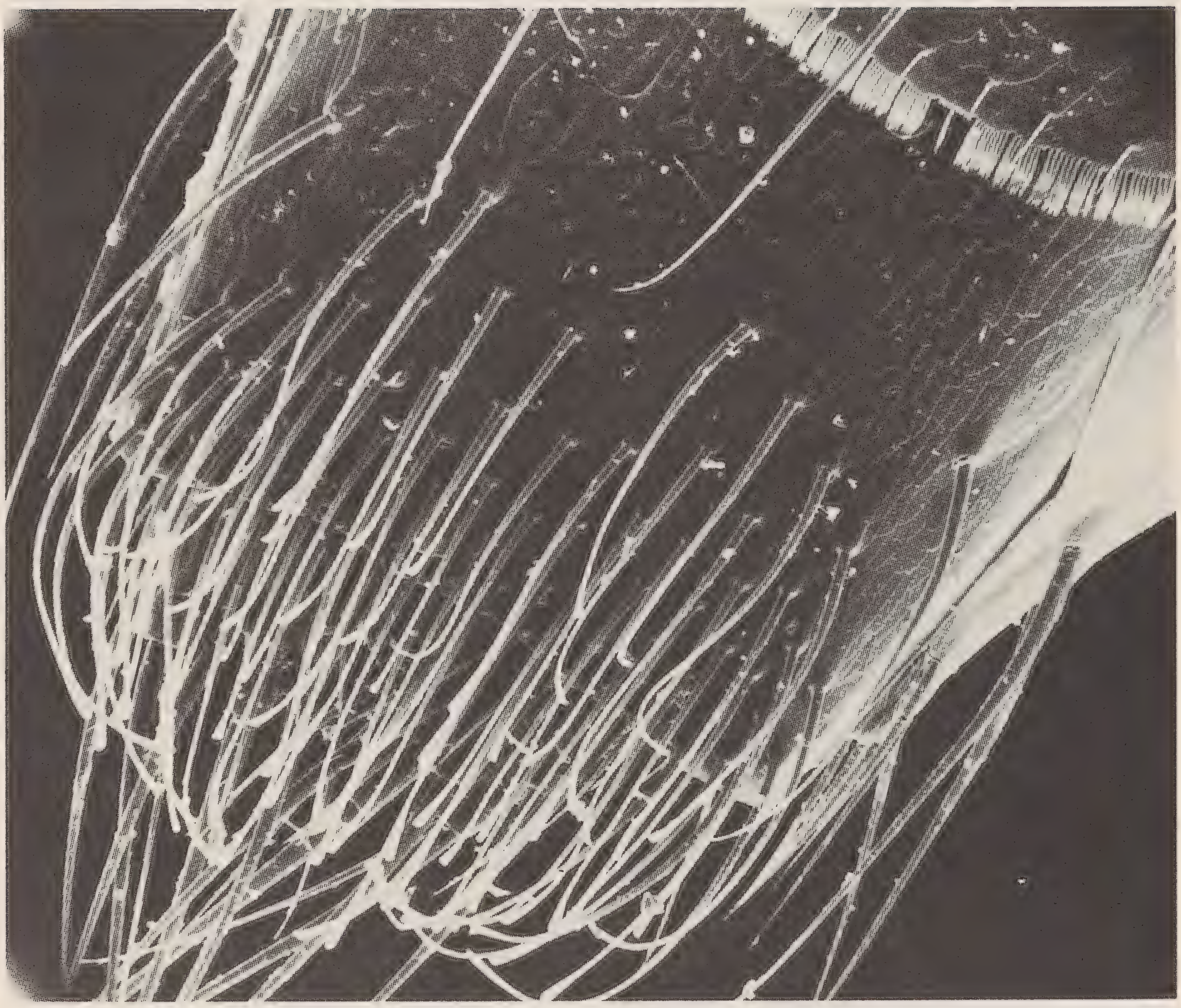

Fig. 178.--Termitusa cloveri, abdominal tergites VII and VIII emphasizing the setae of tergite VIII. Note the presence of spatulate setae. This is the part that is presented to the termite during close encounters.

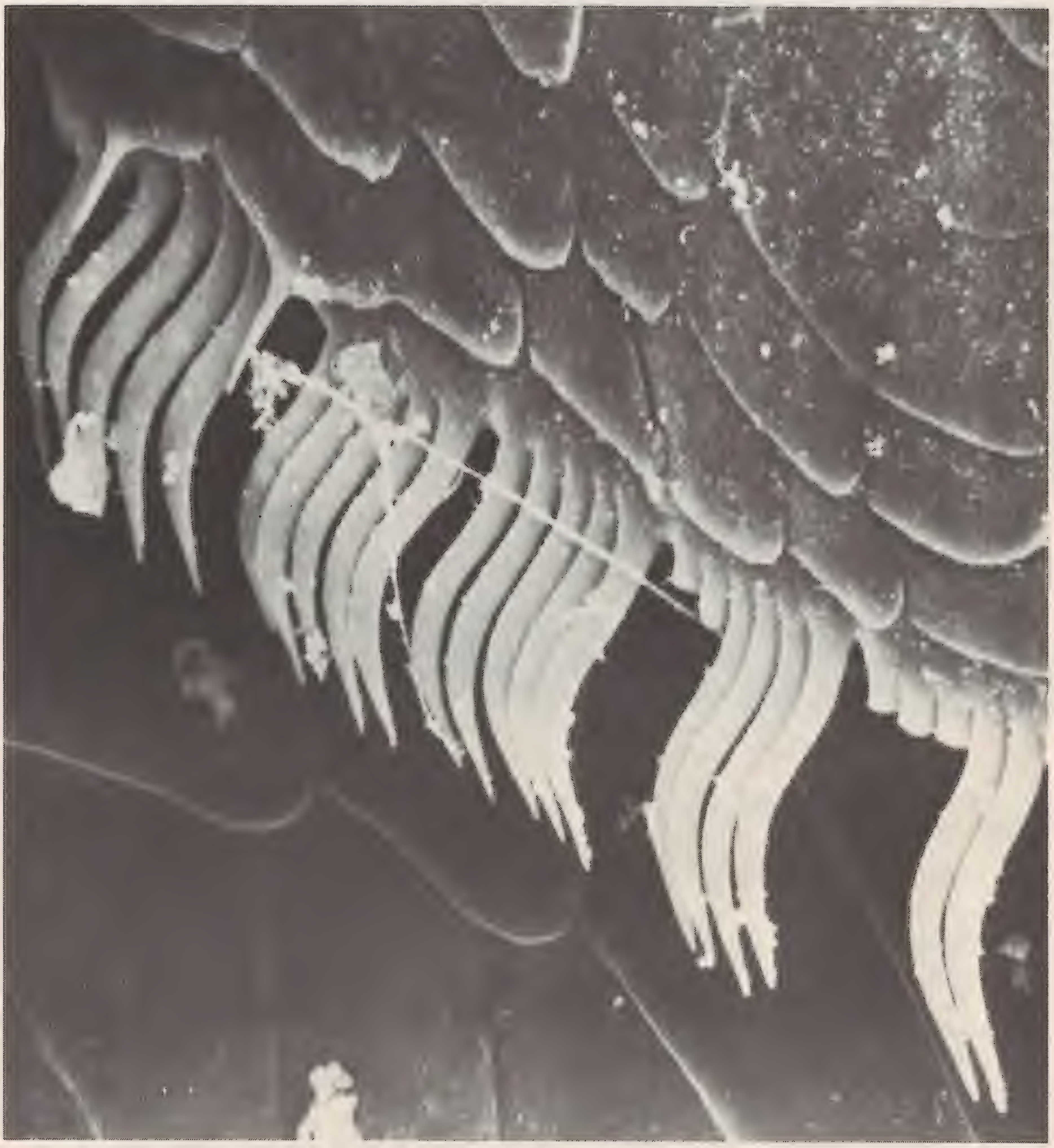

Fig. 179.--Thoracotusa alzadae, posterior edge of tergite VII, viewed from the side emphasizing the microtrichia. X 2400.

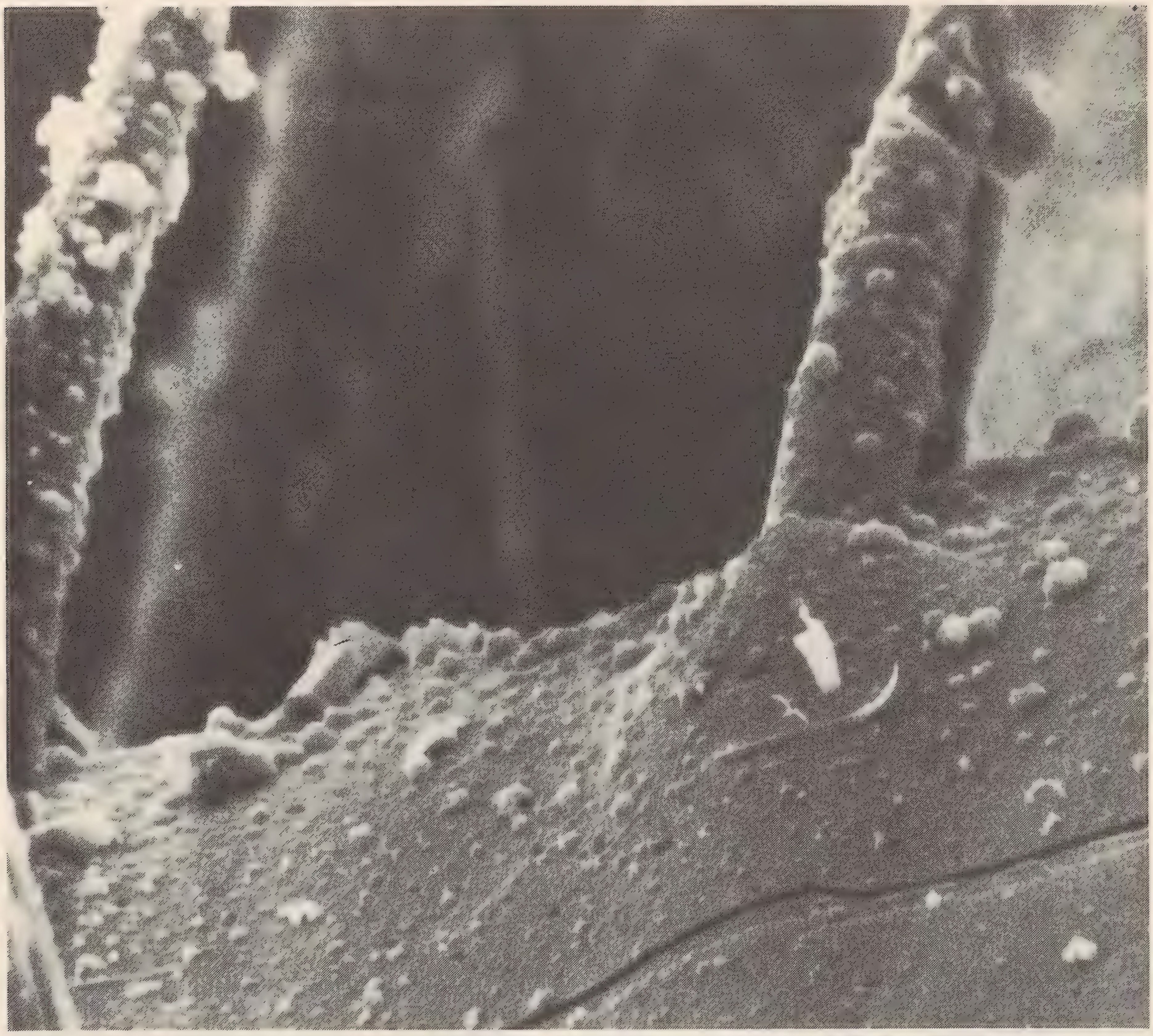

Fig. 180.--Thoracotusa alzadae, posterior edge of abdominal sternite VII; note absence of microtrichia.

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